

VISIT...

LANZAROTE
Caliente.COM

A GUIDE TO UNDERSTANDING CULTURAL ARTIFACTS

ARROWHEADS

A N D



SPEAR POINTS



I N T H E

PREHISTORIC

SOUTHEAST



LINDA CRAWFORD CULBERSON Illustrated by Jim Culberson

Arrowheads and Spear Points in the Prehistoric Southeast

A Guide to Understanding Cultural Artifacts

This page intentionally left blank

*Arrowheads
and
Spear Points
in the
Prehistoric
Southeast*

A Guide to Understanding Cultural Artifacts

**By
Linda
Crawford
Culberson**

Illustrated
by
Jim
Culberson



University Press of Mississippi
Jackson

*All artifacts in this book
are depicted in their actual size
unless otherwise noted.*

Copyright © 1993 by the University Press of Mississippi
All rights reserved
Manufactured in the United States of America
Designed by Sally Hamlin

The paper in this book meets the guidelines for permanence and durability
of the Committee on Production Guidelines for Book Longevity of the Council
on Library Resources.

Library of Congress Cataloging-in-Publication Data

Culberson, Linda Crawford, 1953—

Arrowheads and spear points in the prehistoric southeast : a guide to understanding
cultural artifacts / by Linda Crawford Culberson ; illustrated by Jim Culberson.
p. cm.

Includes bibliographical references and index.

ISBN 0-87805-643-2 (alk. paper). — ISBN 0-87805-638-6 (pbk. : alk. paper)

1. Indians of North America—Southern States—Implements. 2. Indians of
North America—Southern States—Antiquities. 3. Stone implements—Southern
States—Classification. 4. Arrowheads—Southern States—Classification. 5. Projectile
points—Southern States—Classification. 6. Southern States—Antiquities. I. Title.
E78.S65C85 1993

975'.01—dc20

93-8455
CIP

British Library Cataloging-in-Publication data available

Contents

Illustrations	7
Preface	11
Acknowledgments	13
1 Some Basic Principles of Archaeology	17
2 The First Immigrants	30
3 The Paleo-Indians	40
4 The Archaic Stage	48
5 The Woodland Stage	62
6 The Mississippian Stage	71
Glossary	77
Appendixes	
A. Additional Projectile Points	81
B. State Archaeologists in the Southeast	83
C. Museums with Southeastern Archaeological Collections	87
Bibliography	103
Index	113

This page intentionally left blank

Illustrations

Projectile point terminology	25
Direct percussion flaking	26
Indirect percussion flaking	27
Pressure flaking	28
Scraper	28
Grooved ax manufactured by peck and grind method	28
Shovel-shaped incisors and 4+ molar cusp pattern in upper jaw	31
5-Y molar cusp pattern in lower jaw	31
Extent of Beringia in the Western Hemisphere	32
Laurentide and Cordilleran ice sheets	35
Monte Verde, Chile and the Perada Furado Rockshelter, Brazil	38
Clovis point	46
Cumberland point	46
Plainview point	46
Agate Basin point	46
Beaver Lake point	46
Suwannee point	47
Quad point	47
Dalton point	50
Side Notched Dalton point – Greenbriar variety	50
Hardaway point	51

San Patrice point	51
Kirk Corner Notched point	51
Pine Tree Corner Notched point	52
Morrow Mountain point	52
Stanly Stemmed point	53
Ungrooved ax or celt	53
Beginning to throw a spear with an atlatl	54
Having thrown a spear with an atlatl	55
Bannerstone	55
Gorget	56
Two plummets	56
Pendant	56
Stone mortar and grinding stone	56
Steatite bowl	56
Cooking balls	57
LeCroy point	57
Eva I point	57
Eva II point	57
Benton Stemmed point	58
Gary points	58
Ledbetter Stemmed point	58
Pickwick point	59
Saratoga Broad Bladed point	60
Saratoga Parallel Stemmed point	60
Saratoga Expanding Stemmed point	60
Savannah River point	60
Turkeytail point	60
Delhi point	60
Wade point	60
Stemmed or hafted scraper	60
Two Microliths	60
Bone awl	61
Jar form pottery	65
Shallow bowl	65
Rimmed bowl	66
Tripodal bowl	66
Effigy pipe	67
Chipped drill	67
Two Effigy drills	68
Copena point	68
Coosa points	69

Jack's Reef Corner Notched point	69
Scallorn point	69
Sequoyah point	70
Hernando point	70
Raccoon Side-notched point	70
Bone fish hooks	71
Flint hoe	72
Jack's Reef Pentagonal point	72
Madison point	72
Fort Ancient point	73
Nodena point	73
Scrapers	73
Discoidal	74
Ceremonial stone mace	74
Platform pipe	75
Mississippian stirrup jar	75
Mississippian pots	76
Folsom point	81
Lost Lake point	82

This page intentionally left blank

Preface

Virtually everyone growing up in the United States becomes fascinated with the American Indians. That fascination is often intensified by the accidental discovery of prehistoric materials such as arrowheads and spear points, artifacts that have survived to tantalize the modern inhabitants of the lands once occupied by those ancient cultures. Unfortunately, the images that many people have of the early Native Americans generally come from television, movies, and romanticized literature. More reliable data may be found in college textbooks or in field reports, but these are often written in a scientific jargon that effectively discourages the uninitiated. This book

is an attempt to provide the amateur with a clearer understanding of the cultural context of the artifacts that have long enticed him.

Most amateur collectors who share the professional's desire to preserve the prehistoric record realize that archaeological investigations yield more information than the individual artifacts alone can give. Assemblages of collections, the context in which these were found, and the surrounding environment provide valuable data that enables scientists to reconstruct the societies under study. The objects thus examined become more than fascinating trinkets to fill cases or decorate walls. They become fossilized

evidence of extinct peoples whose cultures can be understood only through such analysis.

Most amateur collectors are not "pot hunters" who unlawfully trespass on others' property, callously robbing graves and flagrantly disturbing pristine archaeological sites. Laymen must join with the professionals to insure that this destruction is stopped. Although the objects themselves can sometimes be recovered, the invaluable archaeological evidence that would have been discovered from a study of the context of the finds can never be replaced. "Pot hunters" are stealing from us all.

Most items owned by responsible amateurs were found in surface collections in freshly plowed fields, in pastures after a rain, or in washed out creek beds or arroyos. These amateurs have the same curiosity

as professional archaeologists. They want to know what kind of people might have made such an item, how it was made, how old it is, and what its purpose was. These are the same questions any good investigator would ask: who, how, when, and why. Such enthusiasts would like to find answers to their questions in understandable everyday English.

This book is an attempt to provide some of those answers and to help collectors to identify their finds. Excavation techniques are not dealt with here, nor cultural attributes that are unlikely to be encountered by the average collector, such as burials or dwelling types. This is not intended to be a comprehensive or academic text, but a broad overview of some of the currently available information translated for the general public.

Acknowledgments

Many different people contributed to the writing of this book. Foremost, I want to thank all the professional and non-professional archaeologists who have contributed to our understanding and appreciation of southeastern archaeology. Without them, this book would never have been possible.

My editor and friend, JoAnne Prichard, and everyone else at the University Press were generous with their support, patience, and encouragement. They provided me with the courage to write about a subject of life-long interest.

Everyone at the South Delta Library Services in Rolling Fork and

Yazoo City, Mississippi was always generous with their time and support in helping me locate materials. The staff of the Mississippi State Historical Museum and the Manship House, divisions of the Mississippi Department of Archives and History, kept track of my progress and offered much-needed encouragement. I thank them all.

Sam Brookes provided greatly appreciated information, verification, and constructive criticism of the manuscript.

Finally, I want to thank my illustrator, Jim Culberson, who in the process of working on this book became my husband.

This page intentionally left blank

Arrowheads and Spear Points in the Prehistoric Southeast

A Guide to Understanding Cultural Artifacts

This page intentionally left blank

Some Basic Principles of Archaeology

Any discussion begins with certain basic assumptions, the most basic being that the participants will be speaking the same language. Much of the literature available on the prehistory of the southeastern United States was written by archaeologists for other archaeologists or for college students specializing in archaeology. It was written in their jargon. Although the words are English, and may have more commonly used definitions, they have been assigned meanings that are specific to archaeology.

When referring to an object made by a people being studied, scientists use the word "artifact." Basically an artifact is any item that has been made or modified by hu-

man beings, or is a by-product of human activity. An arrowhead is an artifact, as are the flint flakes left over from its manufacture. An artifact provides evidence of the culture to which its maker belonged.

Meanings of the word "culture" as defined in the *American Heritage Dictionary* include the cultivation of soil, the breeding of animals or growing of plants, social and intellectual formation, the totality of socially transmitted behavior patterns, a style of social and artistic expression peculiar to a class or society, and intellectual and artistic activity. Given such a diversity in the language, it is not surprising that archaeologists have their own definitions.

The most prevalent one is that a culture is a group of similar objects and technologies repeatedly found together over a wide area that seem to reflect a particular way of life. John A. Walthall (1980) offers this definition: "Archaeologically, a culture may be defined as a single group of technologies or assemblages reflecting a similar economic adjustment shared by multiple social groups; a group of specific, named units (i.e., phases) about whose temporal and spatial existence definite data exists." Alex D. Krieger (1964) says more simply that a culture consists of similar archaeological materials found over a wide region. But as Frank Hole and Robert F. Heizer (1973) state, "Artifacts are part of a people's material culture, but an ax is not culture, nor is a burial or a house. It is only when certain kinds of axes, burials, and houses are found together in several sites that archaeologists refer to the repeated associations of artifacts as evidence of culture."

And so, the term "culture" is used not only to refer to a particular grouping of traits but also the people who shared those traits. The problem with this, of course, is that those people may or may not have seen themselves as sharing anything, so that the term "culture," when used as a broad label, really only refers to a group of objects,

the use of which a people living in a certain area may have had in common. The artifacts themselves reflect a particular way of life about which archaeologists can only speculate.

A related term is "stage," which is used to mean a widespread cultural area within which there is a sharing of attributes. This can best be described as a level of culture, because stages are thought to follow one another in some sort of developmental sequence, generally from less complex to more complex. For example, the Paleo-Indian is followed by the Archaic stage and the Woodland stage is followed by the Mississippian stage. Within the stages, there are periods; within the periods, phases; and within the phases, cultures. Cultures share the most traits in common, and the stages are the most generalized. These divisions are marked by the addition or subtraction of attributes (i.e. artifact assemblages, pottery, house types, burial practices) occurring within a specific area rather than a uniform timetable.

Obviously, the ancient peoples did not operate on a schedule. Every group in America did not decide that in around 500 to 750 A.D., for example, that they were going to suddenly stop using the spear in favor of the bow and arrow. There was not universal agreement to

build pyramids or to temper pottery with the same materials or to bury the dead in a certain manner. The stages did not all begin or end at the same time everywhere. Cultures appeared and disappeared in different areas in reaction to locally changing environmental or societal conditions. Because of this widespread variability, this book does not discuss regional phases, and descriptions of artifacts are related to the prehistoric stage in which they were produced rather than to a specific cultural area.

The use of these specialized terms is simply an artificial way of classifying what archaeologists perceive to be significant variations within the societies they are trying to interpret.

Prehistoric materials are also discussed in terms of space and time. "Horizon" designates the geographic area over which specific cultural traits are found to have existed during a limited time span. This "where" element of archaeological inquiry is significant in determining whether the particular characteristic was a localized one, or was diffused over a wide region. "Tradition" implies that the trait persisted over a significant period of time. Consider the custom of shooting fireworks at Christmas, for example. As this is not a universal holiday activity, the horizon of the practice would be the

specific area in which it occurs.

Time is, of course, the "when" part of the discussion. Determining the dates of when people in the southeastern United States began shooting fireworks at Christmas would allow us to define the start of the tradition within that area.

The dating of archaeological materials is difficult at best and pure guesswork at worst. The best method for the amateur collector to use is cross-dating, which is accomplished by comparing items in his collection with those described by professionals. Cross-dating is frequently used by museums and by archaeologists themselves as they sort their own materials into cultural sequences that have been generally agreed upon by the scientific community.

Dating can be divided into two major subheadings: relative and absolute. Relative dating establishes the age of an item or site in comparison to other items and sites. Cross-dating is a form of relative dating in that the questioner determines the age of an artifact in relation to similar artifacts. It is based upon the assumption that items were manufactured in definable styles and by particular methods at certain times, and in varying styles using different methods at other times.

Another tool used in relative dat-

ing is stratigraphy, which involves the geological observation of soil layers. The assumption is that if layers do exist, those on the bottom will have been laid down first and are therefore older than those above. There are problems with this approach, of course. The different strata are not always easy to separate, and it is sometimes difficult to determine which artifact belongs to which level. Rivers, natural erosion, and farming techniques cut into the layers, redistributing the soils and the items they contain. Rodents and other animals dig holes, moving artifacts in their backdirt. Still, the principle is basically sound: deepest is (usually) oldest.

Materials found within the same stratigraphic level or, better still, associated with an artifact can also be used in relative dating. For example, if a projectile point is found in association with the remains of an extinct animal, it can then be assumed that the point was used during the time period when that animal lived. The careful analysis of pollen (palynology) or other plant remains found in the same stratum can also yield this type of valuable information.

Absolute dating methods are those that establish definite chronological dates. Most of these are stated in terms of a $\pm$ date; for ex-

ample, 1800 B.P. $\pm$ 200 years means a 400-year span between 1600 and 2000 years ago. B.P. means "before present," a date that has set at 1950.

One of the better-known absolute dating methods is dendrochronology, or tree-ring dating. Trees in temperate climates produce annual growth rings, which are affected by the climate. The rings produced in good years, with plenty of rain and warm temperatures will be wider than those produced in bad years, when there might have been periods of drought or perhaps an early frost. Counting the concentric rings on a tree cut on a known date will reveal how old it was. The pattern of wide and narrow rings can then be compared with those of another tree, so as to determine the age of the second tree. By matching the similar rings of a series of trees of the same species grown in the same region but of different ages it is possible to obtain a sequence that can be used as a calendar of sorts. This method requires that several conditions be met: there must be a chronological sequence already in place for that area, the culture being studied must have made extensive use of the particular wood needed, and there must be an associated fragment of wood of that species in good enough condi-

tion to be dated. This dating method is used more extensively in the southwestern United States than in the Southeast.

Another well-known method is radiocarbon or Carbon-14 dating, a technique made possible by the fact that carbon is the chemical basis for all life on earth. Normally a carbon atom has an atomic weight of twelve and is called Carbon-12. But some of the carbon in the upper atmosphere is bombarded with cosmic ray neutrons reacting with atmospheric nitrogen to produce radioactive Carbon-14. Eventually, that radioactive carbon is taken up along with the stable carbon in the form of carbon dioxide by plants, which are eaten by animals, that are eaten by other animals, so that all organisms ingest both normal carbon and radiocarbon in a constant rate for as long as they live. This carbon intake ceases upon the death of the organism and the radioactive carbon begins to decay at the rate of one half every 5,730 years. Scientists can measure the amount of Carbon-14 remaining in organic material to determine when the plant or animal died. Wood charcoal that was burned by the people being studied provides one of the best materials for radiocarbon dating, but some bone or antler can also be used. There are

problems in this method too, of course. For example, it has been discovered that the atmospheric concentration of Carbon-14 has varied throughout time, making the calculations more difficult. Suitable specimens are not always available for radiocarbon dating and those that are found must be carefully collected to assure their associations. Roots or humus-rich soil near the specimen can contaminate it, as can such things as paper, cotton, or the touch of human hands. And, finally, radiocarbon dating is expensive, so it is usually reserved for exceptional sites.

There are several other lesser-known dating methods which deserve mention. Thermoluminescence is the physical property of some minerals to release previously absorbed radiation; a fraction of that radiation can later be measured as visible light when the material is reheated. This means that some inorganic artifacts, such as pottery, hearths, and quartz materials that have this luminescent property, can be dated by this method if they were heated as part of their manufacture or use. The problem here is assuring that the item being dated has a verifiable association with the people being studied. (Remember that stratigraphic levels sometimes get mixed or are unclearly defined.)

The original exposure to heat must also have occurred because of human intervention and not as a result of an unrelated event.

Weathering studies such as obsidian—hydration and chert weathering dating are possible because these materials, which were used to make tools, absorb water when fractured. The weathering, which begins on the fractured surface and works inward at a fixed rate, can be measured for dating purposes. Unfortunately, temperature extremes, burning, and local environmental variables can affect the accuracy of this technique.

Although directional compasses often use magnets to point to the north pole, it has long been known that the magnetic field of the earth actually moves around. The angles between the true north and the magnetic north pole have been measured for over four hundred years. Because firing causes the magnetic grains in clay to “freeze,” paleo—magnetic or archaeo—magnetic analysis can be used to determine the age of fired clay materials (such as pottery, hearths, or bricks) through the measurement of the alignment of the grains.

Some other methods, not usually associated with archaeological dating, have been used for that purpose to try to establish when the

Native Americans first came into the New World. Glottochronology is the study of the basic vocabularies of different languages in an attempt to determine their common origins. These basic vocabularies would include such words as “mother,” “father,” “water,” “fire,” names for body parts, and pronouns. Recently, some glottochronologists have extended their studies to include the common usages of certain sounds within words. Other linguists question this approach, asserting that such studies become increasingly less reliable the further one goes back in time.

A type of genetic (mitochondrial) analysis is being used to study the DNA of modern Native Americans in an attempt to link them genetically to common ancestors in Asia. The study of tooth patterns is also being used for the same purpose. The controversies arise in the determinations of the specific rate of change which occurs through time within populations.

Despite the technological advances in these and other methods of absolute dating, budget constraints and excavation conditions seldom allow for them. Radiocarbon dating, the most often used of the absolute dating techniques, is usually reserved for exceptional sites. Excavators more commonly employ

the relative method of dating sites by examining the presence and absence of certain diagnostic artifacts that define the developmental stages of prehistory in the Southeast.

The term "cluster" is used to refer to a grouping based on similarities of characteristics. Some artifact types (i.e. pottery or projectile points) are clustered because of similarities in manufacture and style even though to the casual observer the individual specimens might appear quite different. The basic assumption is that the similarities sufficiently outweigh the differences so that the forms can be considered essentially the same.

It is said that the typologists, those classifiers who come up with the systems of naming and organizing all the different types of artifacts, are divided into "splitters," who divide objects into many subheadings because of minute differences, and "lumpers," who put objects into fewer groups based upon broad similarities. This distinction is important because most of the nomenclature used for arrowheads and spear points has been developed and redeveloped by splitters and lumpers. As a result, it is often easiest to identify an artifact by defining the particular cluster to which it belongs or the cultural

stage in which it was used. Clustering can be seen as a compromise between splitting and lumping.

As Hole and Heizer (1973) write, "In practice, most archaeologists use several approaches to typology because no one method is useful all the time. But the most useful tool is always the archaeologist's brain."

The questions then for the collector are what types of items might someone reasonably expect to find in the southeastern United States, and what cultural affiliations might such objects have (who made them, how, when, and why).

The climate of the United States in general, and of the Southeast in particular, is not conducive to the preservation of many types of prehistoric materials. It is reasonable to believe that the ancient peoples used objects made of wood and hide, but it is unreasonable to expect any prehistoric examples to wash out in a field after a spring rain. The combination of soil acidity, rainfall, and bacteria destroys artifacts made of wood, bark, hide or leather. Bone, horn, and shell last longer and may occasionally be found in surface collections, but even these will eventually be destroyed. Because of the natural eroding processes, the most commonly found items are of stone, followed by pottery.

Some beginning collectors tend to call any worked stone object an “arrowhead,” when in fact, many of the items had purposes other than tipping an arrow. In addition to projectile points; which include arrowheads but also spear points, there are also gravers, scrapers, grinding stones, hammerstones, and numerous other stone artifacts, each with its own significance to the cultural record. Broken pieces of pottery, called sherds, are more likely to be found than an entire vessel, but these fragments are worth collecting since they may yield further information about the area’s prehistoric inhabitants.

Possibly the most important concept in archaeology is the determination of the context of a particular object. Every object is tied to the place, time, and conditions under which it was found. For example, a point discovered in the skull of a prehistoric animal has greater cultural significance than one jumbled together with others in a box at a gem and mineral show. For an object to have increased importance, the finder needs to record where, when, and under what conditions it was found. It can then be stored in a small plastic bag labeled with the date collected, the collector’s name, the location and the conditions of the find (i.e. on the freshly plowed

surface after a rain). If the item is to be displayed, that information can be attached to the back of the display case or frame. The serious collector should also keep a written catalog inventorying his or her finds, along with details of the discoveries and any other relevant identifying information. (See Appendix A for listing.)

If a substantial number of objects is located in a particular area, the items should be left in place, the site location carefully recorded, and the state archaeologist notified.

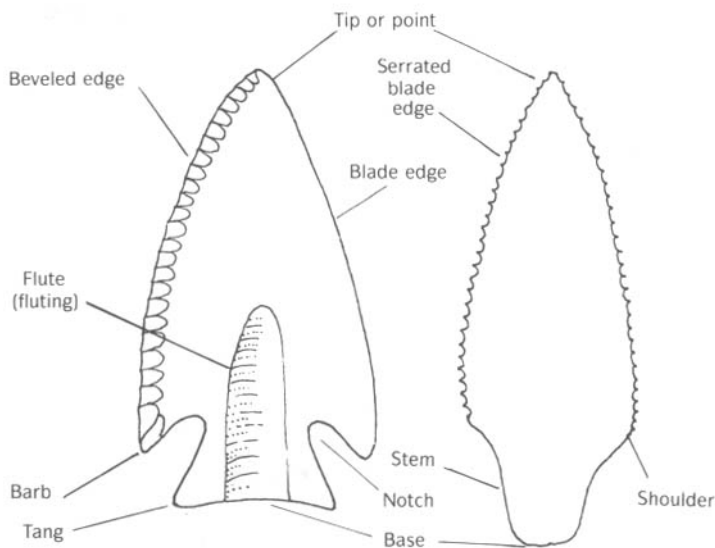
Archaeological excavations are best left to experts, because much of the information gained in a scientific investigation is not from the objects themselves, but from the juxtapositions of those objects with one another — their context. Excavations by anyone, whether amateur or professional, destroy forever much of the available contextual data. Only careful scientific procedures and meticulous recording help to retain some of the invaluable information for later interpretation. When the context is lost, the treasures become knickknacks.

There are not enough archaeologists to cover every area in the South, and responsible collectors can be invaluable to preserving and interpreting the prehistoric record of the region. To maximize this con-

tribution, amateurs need to know what they've found and to have some way of recording that information. As Pat Humphrey wrote in the *Central States Archaeological Journal* (1979), "The majority are conscientious amateurs and collectors who do not dig; they surface collect only and keep accurate records of their finds, as well as their purchases."

To do this effectively, collectors need to be familiar with some of the commonly used terms, especially in reference to projectile points, which are the items most often found.

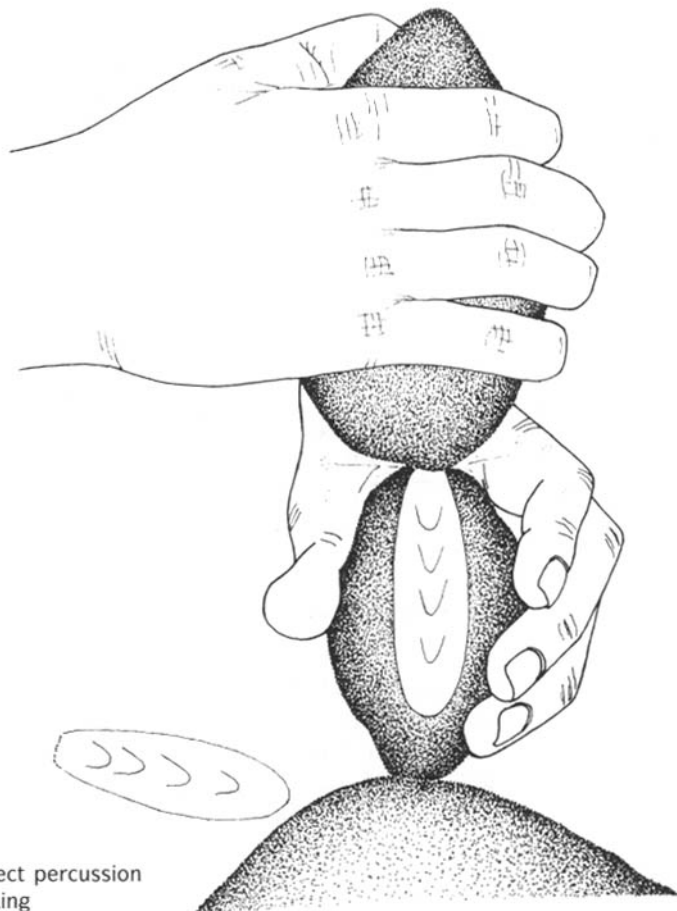
Although they may be of bone or horn, projectile points are more often made of pieces of chipped stone which have been shaped in such a way that they will effectively enter an animal. The stone itself is usually referred to as "flint" although it may be agate, basalt, chalcedony, chert, jasper, obsidian, petrified wood, or quartz. According to G. E. Van Buren (1974), at least eighty different kinds of stone were used. Whatever the material, pieces would break off in conchoidal fractures when struck with a hammerstone or antler hammer. The word "conchoidal," which is derived from conch, means that the flakes come off in rather smooth, shell-like, pieces.



Projectile point terminology

Obsidian and basalt are both volcanic rock, but the other stones mentioned above, including flint, are forms of quartz. Determining the actual type of stone is the purview of geologists, and is valuable to archaeologists primarily in determining the source of the material, making it possible to identify prehistoric settlement and/or trade patterns.

The methods of manufacture and the styles of projectile points changed through time, so that points are effective markers of cultural differences. Basically, the maker would remove the core from a block or nodule of stone by striking it directly with a hammerstone, using a method called direct per-



Direct percussion
flaking

cussion flaking. Then the blank would generally be worked around the edges to form the striking platforms necessary for removing large flakes. The result is called a pre-form, which was further reduced by striking it directly with a hammerstone or antler. As the stone was struck, the flakes were forced

away from the impact, on the underside of the preform. If the stone has been worked on both sides it is called a biface. A stone tool worked only on one side is a uniface.

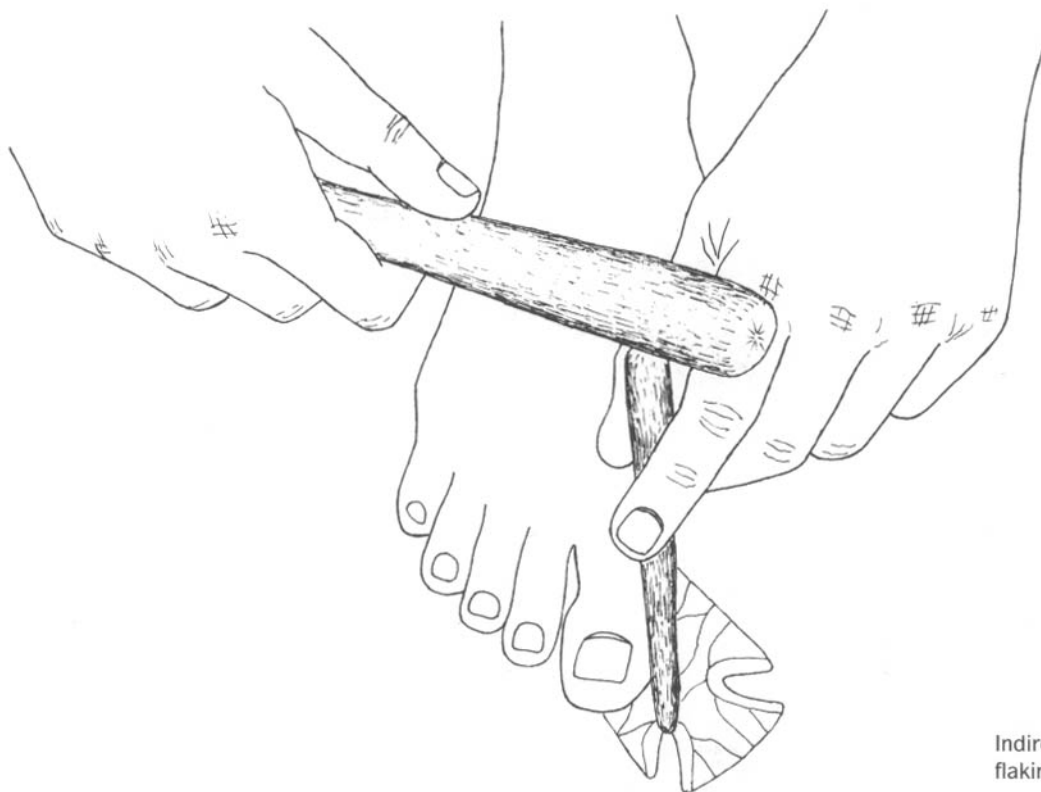
An antler hammer is softer than a stone one, and the force of its impact is less. Because the flakes are flatter, points made with an antler hammer can be thinner.

In indirect percussion, one end of a piece of wood or horn is held against the preform while the opposite end is struck by the hammer—stone. Again, the impact is lessened so that smaller flakes can be removed.

Pressure flaking involves the use of a wood, bone, or antler tool which is pressed against the point, usually on the edges. This causes even more delicate flakes to be removed.

The use of a particular technique or combination of techniques could then produce a point created to best serve its purpose. However, it is also important to remember that a point might also be used as a hole punch, saw, or another tool, just as we might use a knife as a screwdriver or a can opener. A broken point could also be retouched or recycled into another tool.

Because the grade of flint and the skill of the maker varied, the points themselves varied even within a



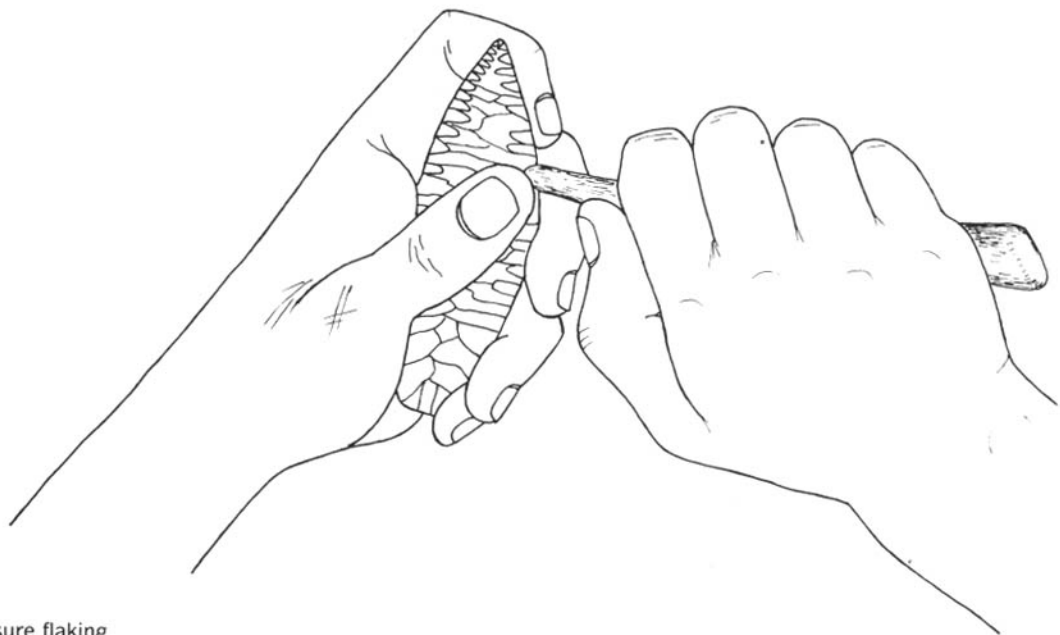
Indirect percussion
flaking

particular style or type. Yet the points conform to set patterns, achieving what would have been the cultural standard for what a point should look like. These patterns of “rightness,” including size, outline, material, and flaking technique, are what a typologist tries to identify in defining types.

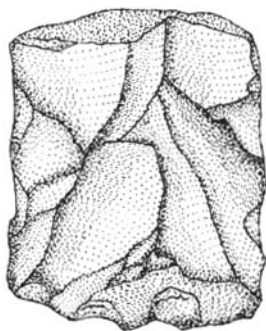
The same flaking process was used to make scrapers, knives, graters, and drills, which are also

often found in surface collections. However, because these objects are much more difficult to assign to specific periods and cultures, they have largely been ignored by archaeologists. One hammerstone looks pretty much like another. But these artifacts would have been vital elements of the users’ tool kits and should be considered important by the collector.

Slate, granite or other hard stones

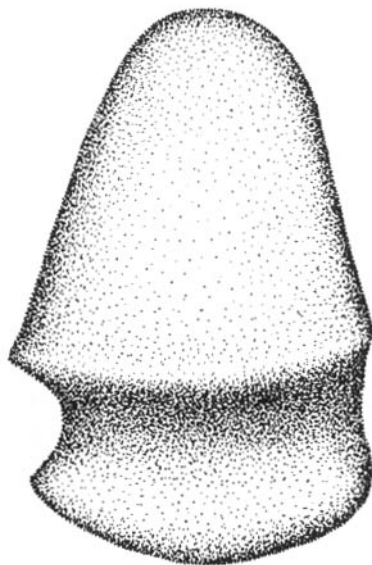


Pressure flaking



Scraper

Grooved ax
manufactured by peck
and grind method
(One-half actual size)



were ground smooth to make such things as weights, stone axes, grinding stones and slabs by a method descriptively called "peck and grind."

Broken pieces of pottery, or sherds (also called shards), are less often collected by amateurs than are projectile points, although pottery can give important clues about the prehistoric inhabitants of an area. Like points, changes in styles of pottery have been carefully studied and typed by archaeologists.

Pottery is scrutinized for information about its method of manufacture and decoration. For example, a

piece of pottery might be tempered with plant materials, ground shell, or bone. Techniques of manufacture include modeling the clay into the desired shape; coiling ropes of clay and laying the rounds one on top of another; and molding the clay into a wooden, stone, ceramic, or basket mold. The maker might decorate the surface by pinching (squeezing it between the fingers like pie crust), incising (marking it with a sharp object), impressing (using a wooden tool or shell), stamping (pressing against it with a textured object), punctuating it with the end of a bone or wooden stick, polishing (rubbing it with a smooth stone), or engraving it after firing. Paints or dyes were used for deco-

ration before or after firing, as were “slips” of water and colored clay. The multitude of variations can be used to classify the pottery styles of an area.

Artifacts have been defined as objects that have been made or modified by human beings, or are a by-product of human activity. To understand those artifacts, one must attempt to understand the cultures in which those items were created. Archaeology is not about artifacts; rather it uses the information gleaned from artifacts, and from the contexts in which they were found, in an effort to understand the people who created them.

The First Immigrants

Man did not originate in the New World, or at least there is no scientific evidence to support such a theory. All of the skeletal remains of people found in the Americas are decidedly *Homo sapiens sapiens*, modern man. There are no *Homo erectus* or Neanderthal remains found here, for example. It naturally follows then, that they had to come from somewhere else.

The modern Native Americans are morphologically most like the peoples of Asia, although there are numerous differences which are attributed to the length of time they have been separated from their ancestral cultures. Traits that the populations have in common are dark eyes with a tendency toward the

epicanthic or Mongolian fold (a fold of skin over the upper eyelid), shovel-shaped incisors (the inward folding of the inside surface of the front teeth which increases chewing surfaces without increasing breadth), and a tendency toward the 5-Y molar cusp pattern rather than the 4+ cusp pattern more common in European populations. Both groups also have hair that is dark and straight, and the males have little facial hair. Blood studies further support this kinship.

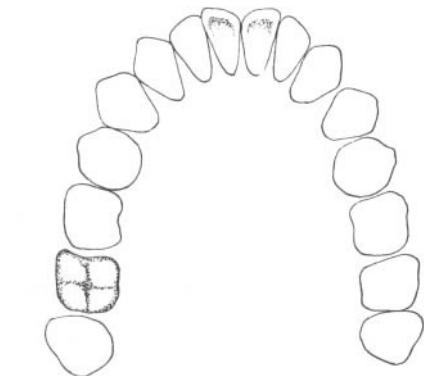
Because of these similarities to the Asian populations, the most logical place to look for the ancestors of the modern American tribes has been Asia, and the proximity of Siberia and Alaska made that con-

nection seem especially likely. Since man did not originate in Siberia either, the problem has been to determine when such a Native American ancestor could have been in that area, and how and when he might have crossed the Bering Strait, the approximately fifty-mile icy channel that now separates the two continents.

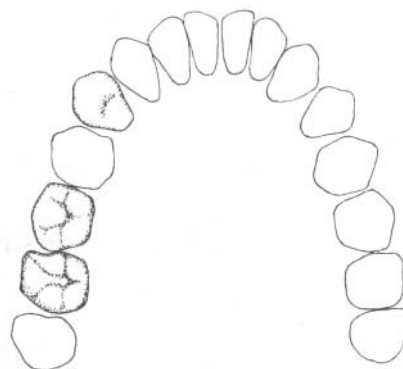
The Pleistocene epoch, also known as the Ice Age, lasted from about 2.5 million years ago to approximately 11,000 years ago; therefore, the world's climate would have been a significant factor in this migration. The Ice Age was not a single long epoch in which much of the earth was covered by snow and ice but was instead a series of long periods of intense glaciation separated by interglacial periods when the world's temperatures were more like those of today.

The last of these glacial periods is called the Wisconsin in North America and the Würm in Europe. Lasting from about 80,000 years ago to about 7000 B.C., this glaciation at its most intense covered about 30 percent of the earth's surface in ice. But the climates fluctuated throughout the Wisconsin, with intermittent periods of warm and cold temperatures.

This complicated picture is documented by geologists who have made deep-sea cores to determine



Shovel-shaped incisors and 4+ molar cusp pattern in upper jaw



5-Y molar cusp pattern in lower jaw

the cyclical pattern of rising and falling sea levels. Every time the world's temperatures dropped, so did the sea levels, as more of the water was taken up into ice. As the world's climate warmed, more of the glacial ice gradually melted back into the seas, causing their levels to rise slowly again. Correspondingly, the land crust rose from the reduced weight of the ice. At the height of the Wisconsin, northwest Europe, Greenland, and the north-



Extent of Beringia in
the Western
Hemisphere

ernmost part of the Americas were part of one gigantic arctic continent, and the sea levels dropped by at least 280 feet at one point in the cycle.

These periods of dropping sea levels are important in some theories of when man first entered the New World, because during those periods, Siberia and Alaska were not separated by an icy channel but were part of one huge arctic continent. Scientists refer to this exposed area not as the Bering Strait, but as Beringia, a “land bridge” which was, at its widest, some 1,000 miles across.

Paleontological evidence indicates that horses and camels developed in the New World and crossed Beringia into the Old, whereas mastodons, mammoths, elk, and moose, all developed in Old World and crossed into the New. It is conceivable that man came with them at some point.

There is evidence of human settlement in Siberia by at least 35,000 to 30,000 years ago. (In Siberia as in the Americas, archaeological investigations are always underway, and that date is probably being pushed further back in time.) It would seem that from that time on human migration from the Old World into the New was possible, as long as there was a usable route.

There were two periods during

which the land bridge was exposed – between approximately 75,000 and 45,000 years ago and from about 25,000 to 14,000 years ago. If the theory of the Beringia crossing is correct, then the immigration was possible at least by 25,000 years ago: people were there and they had a way to get across.

Paleontologists and geologists studying the area have determined that Beringia was not all ice. South of the glaciers there was tundra, a cold arid terrain having a permanently frozen subsoil covered with low-growing vegetation. Below that was an area of taiga, a subarctic evergreen forest. Horses and other smaller hoofed mammals would have subsisted on the dry upland sedges and low shrubs. The woolly mammoth, musk-ox, caribou, and other grazing animals would have stuck to the open tundra area in order to find food.

These animals were well suited to their environment. Unlike the modern elephant which is a browsing animal, the mammoth had shorter legs and a longer body more suited to grazing; its broader feet, with a combination of fatty tissues and laterally extending toes, were more adapted to supporting the mammoth's heavy body over the marshy, poorly drained tundra. The steppe bison, large animals with huge

horns on a massive head, had hair as much as 30 inches deep to protect them from the cold. Part of the muskox's protection from the cold is sluggish blood circulation to its legs, enabling it to survive temperatures down to -50 degrees Fahrenheit.

Soviet biologists, N. K. Vereshchagin and G. F. Baryshnikov, believe that these and other animals of the Upper Paleolithic lived in a colder and drier environment than that of the modern arctic, because all of these animals had long pelts which hung almost to the ground. They theorize that had the climate been wetter, the ice on the fringes would have frozen and melted with deadly results. Further, the steppe bison and horse are faster moving animals that need firm dry soils for their migrations. Vereshchagin and Baryshnikov theorize that much of Beringia had a thin snow cover with enough exposed dried vegetation to support the winter migrations (Fagan 1987).

These animals were not crossing Beringia as much as subsisting there, just as they would on either side. If the ancestors of the Native Americans hunted those animals, the same was probably true of them. J. Louis Giddings is quoted as saying that the population would have considered Beringia itself home, "neither pursuing nor evad-

ing pursuit, but simply existing and adjusting at random to the environment, the sons sometimes hunting beyond the range of the fathers"(Fagan 1987).

It would be a mistake, then, to think of Beringia as a thoroughfare across which the ancestral Americans dashed to immigrate to the New World, but because that area is now under water, little evidence is found of those ancient cultures. However, on the eastern edge of what was Beringia, in the Yukon, Canadian archaeologists William Irving and Jacques Cinq-Mars have excavated the Bluefish Caves site, finding stone tools yielding dates between 10,000 and 13,000 B.P., and also what they believe to be a mammoth-butchering site dating from 15,500 to 20,000 years ago.

Once in Alaska, the new Americans would have found it difficult to expand outward because of a great ice sheet to the east, known as the Laurentide, and the Cordilleran ice sheet to the west. Some archaeologists theorize that the earliest immigrants moved through an ice-free corridor between the two glacier complexes, which opened and closed as the world's climates fluctuated, sometime between 22,000 and 19,000 B.P.

These peoples are believed to have produced only crude pebble chopping tools called macroliths



Laurentide and
Cordilleran ice sheets

(meaning “large stone”), similar to those found in Siberian sites of the same period, and to have hunted with sharpened wooden sticks with fire-hardened tips or with spears fitted with bone or horn points. The problem is that the macroliths resemble the broken pebbles that are the natural by-products of stone tool production, thus their authenticity is questioned. Wooden artifacts, as are believed also to have been used, are less likely to survive.

Supporters of the ice-passage migration theory point to the Meadowcroft Rockshelter in Pennsylvania. That site, excavated by James Adovasio, produced fifty-two radiocarbon dates indicating usage of the site from 12,800 to 19,600 years ago. Some of the earlier dates are challenged by other archaeologists who state that the samples were contaminated by intruding minerals or that the charcoal used in the sample had been moved from another stratigraphical layer by water erosion.

Others argue that even if such an ice-free corridor existed, it would have been uninhabitable, with strong arctic winds blowing over a rugged terrain with minimal vegetation. This most conservative view is that the Native Americans did not come in sufficient numbers to populate the New World until after the glaciation ended about 14,500 to

15,000 years ago and that the earliest verifiable evidence of human occupation comes about 11,500–12,000 B.P. with the big-game hunters.

Additional support for this view comes from Christy Turner and his colleagues of Arizona State University, who have studied the changing physical patterns of teeth in order to establish relationships between northern Asians and Native Americans. Turner theorizes that migrating peoples came from eastern Mongolia across Siberia and Beringia about 13,000 to 14,000 years ago. His evidence also shows that migrations came in three waves: first, the Paleo-Indian peoples, ancestors to most of the historic tribes; second, ancestors of the Athabaskans (including the Apache and the Navaho) and some Northwest Coast tribes; and third, the Aleuts and Eskimo.

Others have argued for the three migrations, including Stanford University linguist Joseph Greenberg. Using glottochronology, the study of language origins, he theorized in the December 1986 issue of *Current Anthropology* that the first migration came about 12,000 years ago. However, Richard Wolkovich stated in the March 1991 issue of *Smithsonian* that Greenberg now feels that the earliest migration might have occurred about 15,000

B.P. or earlier. Wolkomir also quotes linguist Johanna Nichols of the University of California at Berkeley as supporting dates of more than 25,000 years ago based upon glottochronology.

Luigi L. Cavalli-Sforza, another linguist from Stanford, pushes the time of the first migrations back even further, estimating that man first arrived in the Americas about 35,000 B.P.

It is important to note, however, that glottochronology is not universally perceived, even by linguists, as a reliable method for dating the first entry into the New World or even for supporting the theory of three migrations. Lyle Campbell of Louisiana State University at Baton Rouge maintains that current linguistic methods cannot prove such relationships, which become obscured after about 6,000 years. (Bower 1990a)

But additional support for the three migrations theory has come from other directions, including Douglas C. Wallace who used mitochondrial DNA analysis to show that most tribes share at least three of four rare "master sequences," indicating common ancestors. Interestingly, his exceptions included Eskimos, Aleuts, Navajos, and Apaches (Bower 1990b).

If the first immigrants did not cross Beringia, either through some

ice-free corridor or after the glaciation, how did they get to the New World? The land bridge was only exposed between approximately 75,000 and 45,000 years ago, and then again from about 25,000 to 14,000 years ago. Any other time and the ancestors of the Native Americans would have been looking across a channel of water. Some archaeologists do not believe that expanse would have stopped them. The ancestors of the Australian aborigines are known to have crossed a channel of about fifty-five miles at least 35,000 years ago to settle Australia. These scientists believe that it would have been possible for the very first Americans to have migrated in boats across the Bering Strait, which narrowed and widened with the fluctuating climates.

The Monte Verde site in Chile, excavated under the direction of Tom Dillehay of the University of Illinois, is in a peat bog where wooden artifacts such as digging sticks have been preserved. These have been radiocarbon-dated at 12,000 to 13,000 B.P., but the level below has yielded dates as far back as 33,000 B.P. Dillehay is quoted in the March 1991 issue of *Smithsonian* as saying, "Even I consider the older material inconclusive—but we can't disprove it." (Wolkomir 1991)

The Pedra Furado Rockshelter in Brazil is believed by its excavator,



Monte Verde, Chile and
the Perada Furado
Rockshelter, Brazil

French anthropologist Niede Guidon, to have had human occupation as far back as 48,000 B.P. Skeptics believe the radiocarbon—dated charcoal is attributable to forest fires.

However, if the dates going back to over 30,000 years ago are accepted, one must also agree with Alan Lyle Bryan (1986), that “the implication is clear that people had been living in North America long before that time.” For that reason, some archaeologists now believe that the earliest immigrants arrived in the New World 40,000 years ago or earlier.

Some biologists, such as Rebecca Cann of the University of Hawaii, defend the early migration theory based on the study of the mutation rates of mitochondrial DNA. Her calculations give evidence of a common ancestor as early as 40,000 years ago. Svante Paabo of the University of Munich and Richard H. Ward of the University of Utah push the date back even further to an ancestral mother living some 60,000 years ago.

Some of those who support the early dates theorize that the first migrants traveled down the Pacific coast, which is thought to have had a milder and more productive climate than the other coastlines. Being less skilled in stone knapping, these immigrants would have been

more dependent upon wooden tools and the gathering of wild foodstuffs.

“Pre-projectile points” consist of flakes, scrappers, and pebble choppers similar to those found in Siberian sites. The more conservative archaeologists point out that the materials are also very like the normal debris produced by later tool making and by natural processes. Because most of the probable sites the earliest coastline travelers would have used went underwater at the end of the Pleistocene, and because wooden tools are less likely to survive, the reconstruction of such cultures is made more difficult.

Skeptics maintain that the earliest dates are based on contaminated evidence and insist that the only verifiable tools found in the Americas occur after 12,000 to 11,500 years ago.

So, while the archaeologists keep excavating in search of more proof to support their arguments, the laymen can come to their own conclusions and develop their own hypotheses.

It would not be the first time that amateurs have made significant contributions to the understanding of ancient cultures. The various state archaeological societies are excellent forums for the sharing of information.

3

The Paleo-Indians

The Paleolithic period gets its name from the Greek words, *paleo*, meaning ancient, and *lithic*, meaning stone. The compound word, Paleo—Indian, simply means the ancient native Americans who are said to have lived during the Paleolithic period.

The beginning of the Paleolithic in the New World begins with the first settlers there. As we have seen, the actual time period is the subject of much scientific discussion, and a consensus has yet to be reached. Those archaeologists who support the validity of the radiocarbon dates of such sites as Meadowcroft in Pennsylvania, which has been dated at 12,800 B.P. to 19,600 B.P. and the Monte Verde site in Chile, where

the upper layers have been dated at 13,000 B.P. and lower levels at 33,000 B.P., believe that the first migration may have come as early as 40,000 to 50,000 years ago.

Even if one accepts the more conservative of the controversial dates, one must agree with Virginia Morrell (1990) that “they necessarily imply that the initial migration took place at least 20,000 years ago, because human bands, moving on foot, a few tens or hundreds of kilometers per generation, would have had to start that early to reach Chile by 13,000 B.P.”

If the earliest migrations did occur between 20,000 and 40,000 years ago, it might have been without projectile points. Instead, these

peoples are believed to have been less skilled at flint knapping and to have depended on wooden sticks with fire-hardened points, flakes, scrapers, and pebble choppers similar to those found in Siberian sites. Many of the controversial early sites have produced just such pebble tools.

One such find, from northwestern Alabama, was described by Dan Josselyn and Matthew Lively in 1956 as the Lively Complex (Walthall 1980). The two men and several other amateur archaeologists found numerous examples of chipped cobbles and flakes, which they described as being much like those from the Old World. However, John A. Walthall and other skeptics believe the finds to be the normal by-products of stone tool production.

In 1973, Don W. Dragoo reported finding similar tools belonging to what he terms the "heavy core tool complex" at the Wells Creek site in northern Tennessee. Like Lively and Josselyn, he describes large core tools that have been "heat treated." Such "thermal alteration" binds the impurities into the stone (often chert) to make a "more uniform material with the ability to fracture like glass rather than like rock," (Purdy 1986) and changes the color of the stone, often from yellow to pink. Although Dragoo feels that the large

tools may be "Early Lithic" in age, he does say that their makers may have used them "as a source of flint for smaller tools" (Dragoo 1973).

Criticism has been directed at other "pre-projectile point" sites as well. In New Mexico, Richard MacNeish discovered hearths, butchered bones, and stone tools that have been dated at 38,000 B.P. Skeptics believe that the site's stratigraphical levels are mixed up, and that the finds are later than MacNeish thinks.

Wooden tools, such as would have been used by these hypothetical early immigrants are unlikely to survive decomposition under most circumstances. The conditions at Monte Verde in Chile are unique in that the boggy soils provide a low-oxygen environment that inhibits decomposition. Tom Dillehay's excavations have unearthed such items as digging sticks, wooden spear tips, and other wooden artifacts which have been dated at 12,000 to 13,000 years ago. Amazingly, his team of excavators also found evidence of a row of huts, as well as plant and animal remains. These finds were interpreted as evidence of hunting/gathering people who were largely dependent upon the collecting of some forty-two species of plants, including wild potatoes, nuts, fruits, and leafy greens, and upon the hunting and

snaring of a variety of small animals, including fish and rodents. They also found some preserved mastodon meat that is thought to be evidence of prehistoric scavenging rather than hunting. At another site nearby, Dillehay's team found twenty-six stone artifacts that they date at 33,000 B.P. Again, some skeptics believe those lithic materials were created by natural rather than human processes (Wolkomir 1991).

The Meadowcroft site, located southwest of Pittsburgh, Pennsylvania, was excavated by James Adovasio. Materials from the deepest occupation level have been radiocarbon dated at between 16,200 and 19,000 years ago. Adovasio contends that the site was a camp for hunting and gathering peoples who used stone blades similar to those found in Asia. Critics counter that the earliest dates are the result of contaminated samples (Horgan 1992; Marshall 1990).

At Bluefish Cave in the Yukon is what Canadian archaeologists William Irving and Jacques Cinq-Mars believe to be a mammoth butchering site. Although there are no unmistakable tools associated with it, the animal bones, dated at 15,000 to 20,000 years old, have what they interpret to be cut marks. Critics feel that the mammoth bones were altered by shifting ice. Stone

tools found at the upper stratigraphical levels of the site have yielded dates at between 10,000 and 13,000 years old (Wolkomir 1991).

One of the more controversial "pre-projectile point" sites is in the Calico Mountains in San Bernardino County, California. Excavated by a team led by Ruth Simpson, this site, which has been geologically dated at between 30,000 and 500,000 years ago, was deeply buried beneath ancient alluvial sand and gravel. The wide range of dates is based upon what C. Vance Haynes (1969) interprets to be "convincing evidence that the deposit is of pre-Wisconsinan age (more than 70,000 years old), because such a depth of weathering is not known in Wisconsinan deposits. Some geologic age estimates of between 30,000 and 120,000 years have been made, but an age of 500,000 can not be precluded." The site produced objects that Simpson interpreted to be a hearth, hammerstones, and chipped stone. Skeptics point out that the objects could have been chipped and flaked naturally, without human intervention (Haynes 1969).

The earliest non-contested Paleo-Indian projectile points found in the Americas are those produced by the "Clovis culture." Named for a point first discovered in the 1930s

near Clovis, New Mexico, these peoples are believed by many archaeologists to have been the first immigrants to the New World, arriving here some 12,000 to 14,000 years ago across Beringia, when the ice-free corridor between the Cordillerian ice sheet on the west and the Laurentide ice sheet on the east permanently opened at the end of the Pleistocene.

There are some scientists, however, who believe that such a corridor would have been uninhabitable, with an unbearably harsh climate and too little plant life to support the large herds of game animals necessary for human migrations. According to these theorists, the first immigrants were coastal dwellers who followed the coastlines down into the Americas and then followed the rivers inland. Supporters of this theory point to the comparable reliability of the food resources. *U. S. News and World Report* (1990) quotes William S. Laughlin of the University of Connecticut as saying that "the southern shore of the land bridge would have had a bounty of sea mammals, fish and birds to support human life" and William Fitzgerald of the Smithsonian as pointing to the presence of marine cultures in Asia as further verification. This argument would seem to predispose that the Paleo-Indian culture developed in

the western United States. However, because some of the earliest Clovis-type points are found in the East, some scientists look to that region to be the source of such a development.

The Clovis spear points are very widespread, having been found throughout the Americas, but nothing quite like them has been discovered in the Old World. The beautiful fluted points, which are thinly worked with unstemmed concave bases, would seem to represent a stone-working technique that was already full-blown by about 12,000 years ago. As Walthall writes (1980), "This suggests that an earlier developmental stage existed in the New World that ultimately produced these later fluted-point complexes."

Because these points have been found in direct association with the bones of such large, now-extinct Pleistocene mammals as mammoths and mastodons in the Great Plains and in western North America, the Clovis culture has long been identified with big-game hunters. In the East, Clovis points are primarily surface finds, although the frequency of finds in plateau areas and upper river terraces would seem to indicate a hunting/gathering culture, at least in part, based upon the hunting of the very large mammals known as "megafauna."

Although mammoths such as those found associated with Clovis points in the West are less common in the East, finds of mastodon bones are much more frequent. There are only a few direct associations with Clovis points, however, with notable exceptions being Kimmswick, Missouri and Big Bone Lick, Kentucky (Morse 1983; Walt-hall 1980).

Mastodons, with their broad, cusped teeth, were woodland animals, which browsed on leaves, twigs, coarse grasses, mosses, and swamp plants. At the end of the Pleistocene, as the ice sheets retreated northward, the pine and spruce forests in the southern lowlands began to be replaced by deciduous forests (consisting of such trees as hickory, oak, and elm). The mastodon probably began to have more difficulty in locating winter food (Morse 1983).

By about 12,500 B.P., the transition from Pleistocene to Holocene (the recent geological period) was distinct at latitudes from about thirty-three to thirty-seven degrees. (The northern boundaries of Georgia, Alabama, and Mississippi are at about thirty-five degrees.) The Pleistocene came to an end about 11,000 to 10,000 years ago, or about 8000 B.C. The actual date for the megafauna extinctions has been argued, but many scientists

now seem to feel that the mammoth, mastodon, and horse were extinct in the region by that time (Goodyear, Michie, and Charles 1989).

Direct associations of the Clovis-type points with the large game animals in the Southeast are rare. S. David Webb (1984) has presented several potential reasons for the scarcity: the megafauna might have lived in smaller groups in the forest environments of the East than in the West; the topographic features of the East might be less conducive to entrapment and ambush; and what remains there might have been in the East might now be under water, hidden by vegetation or soil development, or destroyed by the acidic soil conditions prevalent in this region.

Most scientists do believe, however, that it would be a serious mistake to assume that the Paleo-Indians limited their subsistence to the megafauna. It is more likely that smaller game animals and wild food stuffs would have also contributed to the diet. As Robert L. Kelly and Lawrence C. Todd stated in 1988, the Paleo-Indians "probably were generalists in relation to large terrestrial faunal resources and opportunists in relation to all other food resources."

There does seem to be a gradual change during the period of the

types of spear points made, and some of these changes might indicate a shift in emphasis from the hunting of megafauna to smaller herd animals, such as deer, elk, and horses. The archaeological evidence also indicates that the Paleo-Indians made tools to exploit small game such as turtles, birds, fish, and rodents. For example, Little Salt Springs, an underwater site in Florida, has produced the remains of an extinct sea turtle that had been impaled with a wooden stake (Clausen et al. 1979).

Because the Paleo-Indians were hunters and gatherers, and because evidence of their culture is so scattered, archaeologists believe that they were a nomadic people, who moved around within a region in their search for food. Based upon ethnological studies of hunting and gathering cultures living today, archaeologists also make the assumption that the Paleo-Indians lived in small bands. This supposition is made because hunting and gathering of wild foods are activities greatly influenced by seasonal and climatic changes, and a large population puts a stress upon the resources. In addition, a nomadic existence limits the material possessions that can be carried around.

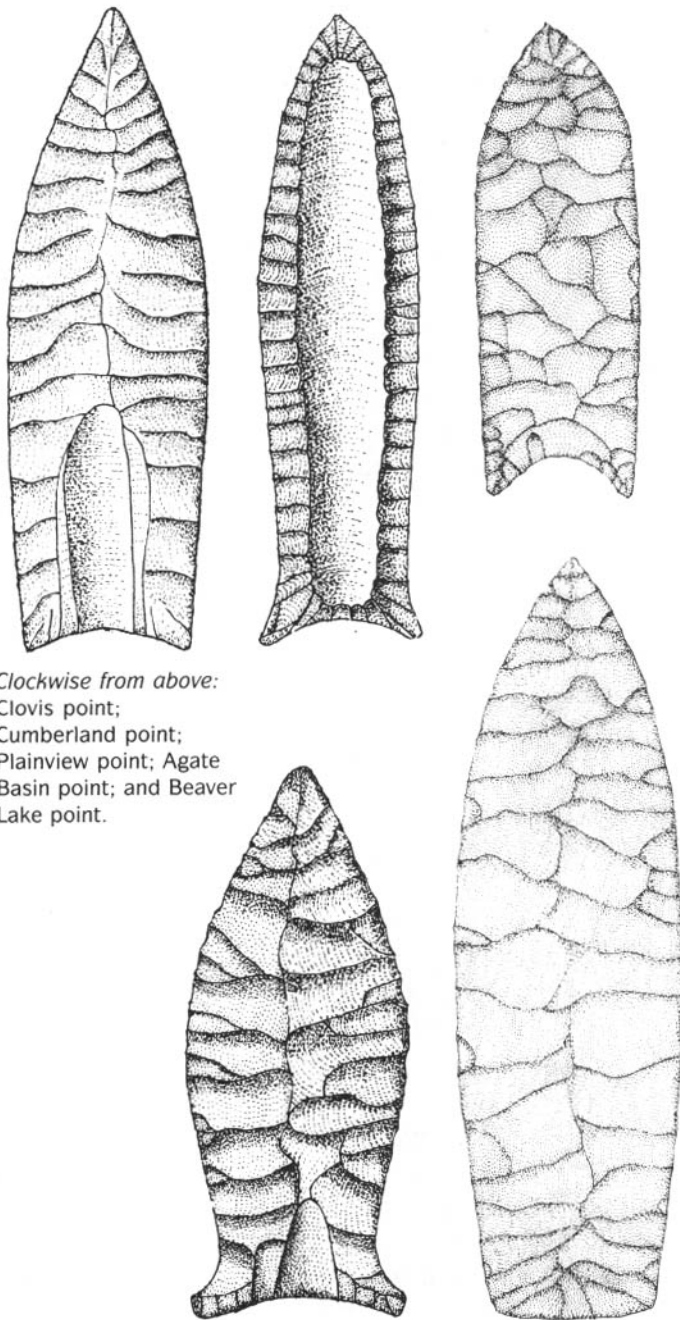
Since knowledge of their environment was essential to their survival, many scientists also believe that the

Paleo-Indians were territorial, with each band occupying and exploiting its own particular niche. John Walthall (1980) states, "Small game probably played a significant role in the hunting activities of most groups while larger animals were a primary prey of others."

Ethnological studies also indicate that the bands were based upon some kind of kinship group, with members marrying outside the group. When food was plentiful, some of the bands might have joined together, separating again when conditions became less favorable.

Hunting in such societies tends to be done primarily by the adult males in the group, because it is difficult for women who are pregnant or caring for small children to follow the prey. (This is not to say that women might never have participated, as they have been known to do in some "primitive" societies historically.) The women were probably more concerned with the gathering and preparation of wild foods. This type of division of labor is said to be "sexually determined."

According to studies of the artifacts themselves, the large game animals were killed with thrusting or thrown spears. (The bow and arrow did not come into use until much later.) Some of the changes in point types may have come about be-



Clockwise from above:
 Clovis point;
 Cumberland point;
 Plainview point; Agate
 Basin point; and Beaver
 Lake point.

cause of the gradual shrinkage of the megafauna population toward the end of the Pleistocene.

The Clovis points are bifacially (on both sides) percussion flaked. Typically, they are thinly worked, lanceolate (long and slender, being tapered at one or both ends) with multiple fluting at the concave base, which has been noticeably ground for hafting to the spear. In the eastern United States, points have been found that represent a number of different fluting techniques. One type has a long single flute on one side, with a shorter flute on the other side, or multiple fluting on only one side (Justice 1987).

Some changes involve the development of points such as the Cumberland, which is distinguishable by its slightly "fishtailed" ears on the concave base. It too is thin and lanceolate, with the flute often extending almost full-length toward the tip of the projectile point.

One unfluted type of point is sometimes called Unfluted Clovis and sometimes Plainview. It is lanceolate in general outline, with a concave base, that has been heavily ground for hafting to the spear. A similar point, which Noel Justice (1987) places in the Plano Cluster, is the Agate Basin point, which is also unfluted and lanceolate but has a straight to slightly convex base.

Late Paleo-Indian spear points

are also sometimes found in what have been designated Archaic sites. It is important to remember that sites are usually assigned to particular stages based upon a collection of attributes rather than by a single diagnostic element, such as the presence or absence of a particular type of projectile point. Such styles did not alter abruptly, but were often gradual adaptations to changes in the environment (such as the introduction or disappearance of game animals).

One group of such points belongs to what Justice describes at the Dalton cluster. The Beaver Lake point is dated at about 8500 to 7900 B.C. (The start of the Archaic is usually placed at about 8000 to 7000 B.C.) Beaver Lake points have edges that tend to curve gently outward just above the base (recurvate), with basal ears and a concave base that has been ground. They are thin points with no fluting.

The Suwannee from Florida is lanceolate, with a flaring base and no flute. The Simpson point is also unfluted, but has a narrower "waist" where it "fishtails" out toward the concave base. The Simpson is very variable in size. Barbara A. Purdy (1981) states that both of these are believed to have been used on thrusting spears.

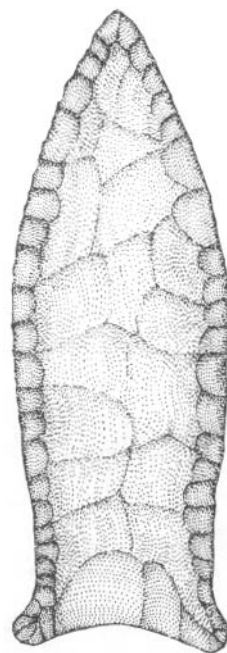
Quad points, named for a site in northern Alabama, are sometimes

fluted. These are short to medium-sized points, which are broadly lanceolate, with concave bases.

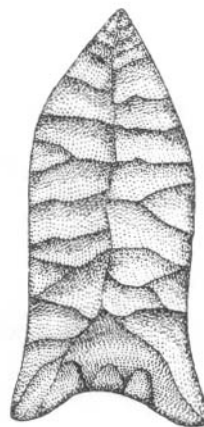
Because the changes in projectile points make them relatively easy to type according to time periods, these artifacts have been used by archaeologists and amateurs to establish chronologies. However, other stone tools have been found associated with them, indicating that the Paleo-Indians used such objects as unifacial (worked on one side only) blades, scrapers, spokeshaves, hammerstones and drills as well.

The "blades" found are much like those of the same period in Europe. Based on examinations of their cutting surfaces they were used for such diverse purposes as knives, scrapers, and chisels.

It is the multi-purposefulness of items such as scrapers, blades, and hammerstones that allowed them to be used during several stages. As G. E. Van Buren states (1974), "If a tool or weapon is adequate for a job, there is little inclination to change it. People who develop a style or pattern of activity that is satisfactory to them usually retain that style until something causes them to alter their way of living." That "something" can be a change in the environment or an advance in technology. Such changes marked the gradual transition from the Paleo-Indian stage to the Archaic.



Suwannee point



Quad point

The Archaic Stage

As the Pleistocene ended and the Holocene, or recent epoch, began about 10,000 to 11,000 years ago, many of the megafauna had become or were becoming, extinct, primarily because of a change in the climate as the earth warmed. The glacial ice began to retreat further northward, and correspondingly, the sea levels rose as the melting waters flowed into them.

The Hypsithermal, as the interval between 7000 and 3000 B.C. is known, was a period when the continental United States was particularly warm and dry, although some scientists now feel that the climatic changes were less uniform than previously thought. Dennis Blanton and

Kenneth Sassaman (1989), for example, say that the data indicate that the generally dry conditions were "periodically interrupted by wetter climatic episodes." It is agreed, however, that the climatic conditions caused alterations in the plant growth, and thus the animals and the people who depended upon them for their subsistence.

These environmental changes, in addition to the hunting by the Native Americans, would have contributed to the extinction of the megafauna such as the mastodons; mammoths, and giant ground sloths. The loss of this significant food resource would have then created a stress upon the ancient Indi-

ans, who adapted by relying more heavily upon a wider variety of smaller animals and upon an increased gathering of wild plant foods. These changes would then be reflected in the types of tools that they needed to exploit that kind of environment.

In most parts of the country, the term "Archaic" refers to a stage in which members of preceramic migratory hunting and gathering cultures acquired food resources in a manner best described as "foraging." In the Southeast, although lanceolate projectile points such as the Dalton continue into the Early Archaic (starting about 8000 B.C.), stemmed and notched points, were also used to hunt modern game, especially deer. There is also evidence of specialized tools, such as milling equipment for the processing of wild plant foods. By the Middle Archaic, about 6000 B.C. to 4000 B.C., ground and polished stone tools were being used, including what some archaeologists believe to be atlatl (spearthrower) weights. In the Late Archaic, ceramics and horticulture were introduced.

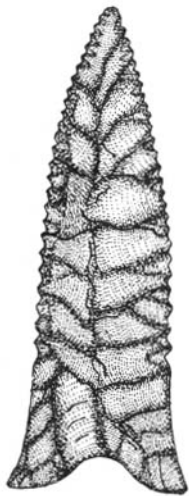
The Archaic stage is often described as "transitional," because, although hunting was still the primary means of food procurement, it had become less important. The Paleo-Indians are known to have

gathered wild plant foods, but the Archaic cultures were more dependent upon such resources and developed a more specialized tool kit for their exploitation. Although some of the late Paleo-Indian points have been found in Early Archaic sites, it is important to remember that archaeologists do not make their interpretations of sites based upon single artifacts but upon a collection of elements.

Collectors of projectile points sometimes remark that the chipping techniques of the Archaic peoples are more crude and less esthetically pleasing than those of the Paleo-Indians, and it is true that by the Middle Archaic, the chipped tools are unfluted and noticeably less finely worked. Barbara Purdy (1981) speculates that this indicates a change from a migratory to a more sedentary population, and that "the Paleo-Indian and Late Paleo peoples performed a narrower range of tasks, while the more diversified and complex life of Preceramic Archaic peoples demanded an efficient but less elaborate stoneworking technology."

Speaking more generally, G. E. Van Buren (1974) writes:

Changes in design patterns sometimes result from experience, and the changes may appear a retrogression of a technology. If a given



Dalton point

type of projectile point breaks every time it is used, the hunter might decide to make a thicker or broader point that would survive impacts better. If a thicker or broader point causes a hunter to miss his mark because it is too heavy to travel far enough, the hunter might decide to make a narrower or shorter point. If a point shoulder or barb makes it difficult for a hunter to recover his projectile point from game he has killed, he might decide to eliminate sharp shoulders or barbs on his projectile points so that they could be reused. Changes resulting from usage experience would be dictated by utility, convenience, and economy of effort . . .

In other words, the ancient hunters, like modern ones, would have a tendency to "go with what works."

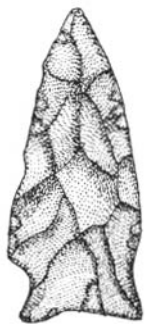
The Early Archaic saw a gradual transition from the Paleo-Indian life-style of big-game hunting to one more dependent upon smaller game, such as bison, pronghorn, and deer. The people still migrated, but over a smaller area and within predictable patterns, so that their migrations became seasonal in nature. The populations, still organized into bands, responded to the drying conditions by exploiting riverine environments and utilizing seasonal open area and rockshelter campsites. Some archaeologists

(Walthall 1980) have speculated that the rockshelters were used primarily as winter camps, when hunting would have emerged as the predominant food-gathering activity, with the open areas being used during much of the rest of the year.

The Dalton cluster of projectile points, which Noel Justice (1987) defines to include Beaver Lake and Quad, can be found in Early Archaic sites, as well as in Paleo-Indian sites. In fact, Dan and Phyllis Morse (1983) place Dalton in a transitional stage of its own, dated at 8500 to 7500 B.C., stating, "There is little doubt that Dalton represents a base out of which the Archaic developed in the southeastern United States.

Diet focused on the white-tailed deer, with smaller animals, fish and birds being included as well."

Dalton points are unfluted, with lanceolate or triangular blades. The edges are serrated, and the concave bases have been ground. These points were sometimes resharpened after they became dull with use. According to Walthall (1980), this resharpening was done while the blade was still hafted to the spear, which would explain why the blades tended to become narrower and sometimes even drill-like after several resharpenings. As the blades were reshaped, the bases did not receive similar resizing.



Side Notched Dalton point—Greenbriar variety

After about 7500 B.C. the Dalton points had side notches, as other Archaic types commonly did. According to Justice (1987), "Associations at a sizable number of stratified sites demonstrate that Dalton points were manufactured after the time of fluted points and largely prior to the appearance of Early Archaic notched point traditions, although Dalton is a technological link between those traditions."

The Hardaway point, also referred to as the corner-notched Dalton, is a small to medium-sized triangular point with a deeply concave base and low side notches, that give the point laterally flaring ears.

The San Patrice point cluster, including the Hope and St. Johns points, are also side-notched Early Archaic points. Defined from excavations of the John Peace site in northwest Louisiana, these points are small and sometimes serrated. Like the Dalton, they were often resharpened. These have been dated at about 7500 B.C.

The Kirk cluster includes such types as the Decatur and Pine Tree Corner Notched points. All of this cluster's points commonly have serrated blade edges and also tend to exhibit some beveling of the blade. The typical Kirk Corner Notched point has a triangular blade with a slightly rounded base without basal

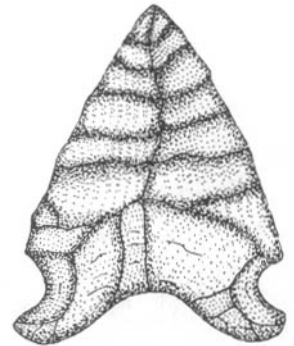
grinding. In some of the literature, the Pine Tree Corner Notched point is defined as being a small variety of the Kirk Corner Notched. It is thinner in cross-section, with a straight to slightly convex base that has been ground. The Decatur points are triangular and corner-notched but have a flattened edge.

The Kirk Stemmed point has a long blade and a broad stem. The Kirk Serrated has deep serrations.

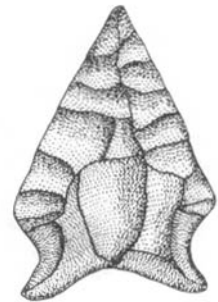
By the Middle Archaic, starting about 6000 B.C. and ending about 4000 B.C., the groups were increasingly territorial, resulting in a growing diversity among them. This was also when ground and polished stone implements appeared.

It was during this time that the Hypsithermal, with its dryer climate had begun to reach its full impact. Describing pollen analysis from southeast Missouri, Dan and Phyllis Morse (1983) state that by 6700 B.C. open-swamp species declined, while "grasses and other non-aboreal pollen began to dominate the pollen profile." They write that by 5000 B.C.

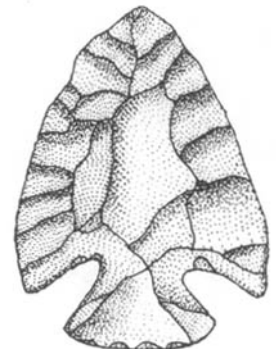
"up to 85% of the species were grassland inhabitants. . . This percentage of grass-species pollen is even higher than that recorded for modern prairie communities; complete dominance by grass is evident. . . None of these changes



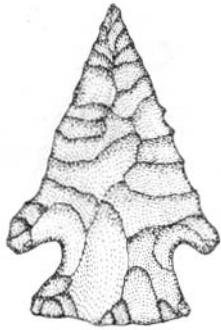
Hardaway point



San Patrice point



Kirk Corner Notched point



Pine Tree Corner
Notched point

occurred overnight. Recent research has tried to emphasize gradualism rather than abrupt transitions to both climate and related vegetational progressions. However, the effects of climate on the potential food supply cannot be overstated. People can exist in seemingly harsh and unproductive environments, but their food preferences, extraction techniques, and population numbers must change with changing ecological conditions.

This change to a prairie environment meant that deer, which are a forest edge species, would have become less common, while bison, pronghorn, and other grassland animals became more plentiful. Streams and riverine environments, where they survived the drying conditions, would have been more likely to have sustained the type of forest conditions necessary for deer. Where the rivers were shallow enough to form shoals, shellfish were also available and were a common food source, as is indicated by the large numbers of shell middens (trash heaps) that have been found.

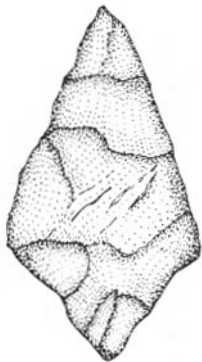
It is speculated that the stress caused by the narrowing of food resources coupled with population growth led to internal stress and conflict. Walthall (1980) states that the remains of a number of individ-

uals who had died violently were found buried in the shell mounds of Kentucky, Illinois, and Alabama.

Dennis Blanton and Kenneth Sassaman (1989), in describing the environmental conditions in Georgia and South Carolina, state that the period was given to greater fluctuation, with wetter intervals interrupting the generally drier conditions. They do emphasize, however, that "Middle Archaic populations appear to have been faced with coping with an unstable, generally nonuniform environment."

The number of Middle Archaic sites indicates a higher population density overall. But because the sites tend to be small, it is believed that the groups were still organized on the band level and were residually mobile enough to achieve the flexibility needed to adapt to the harsh, unstable environment. Blanton and Sassaman further emphasize that "Middle Archaic technologies are marked by increasing simplification. . . . Procurement and use of local lithic raw materials is the rule. In essence, Middle Archaic technologies appear to be generalized and designed with the maximization of expediency in mind."

The growth in population and territoriality led to a growing diversity in projectile point styles. According to Walthall (1980), there is an



Morrow Mountain point

abundance of “undifferentiated straight- and expanded-stem Archaic types. In many cases, thousands of these diagnostic projectile points have been lumped into provisional categories, again impeding comparative study.”

However, one cluster that has been isolated east of the Mississippi River is the Morrow Mountain cluster. These are small to medium-sized triangular points with short stems. The blades typically curve slightly outward, but straight and inward curving blades are also found. The Morrow Mountain I type has a short, pointed stem, while the Morrow Mountain II type is long and narrow with a longer, tapered stem.

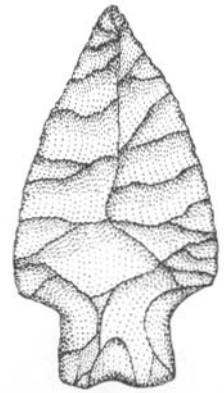
The Stanly Stemmed cluster points are broadly triangular with narrow, squared bases and often have serrated blade edges.

Ungrooved axes or “celts” appear during the Middle Archaic as do bannerstones. These stones are believed by some archaeologists to have been used with spearthrowers called atlatls. Atlatls were essentially short boards or sticks, approximately two feet long, fitted with a handle on one end and a groove or hook on the other where the end of the spear shaft was set. Some archaeologists speculate that atlatls were used as early as the

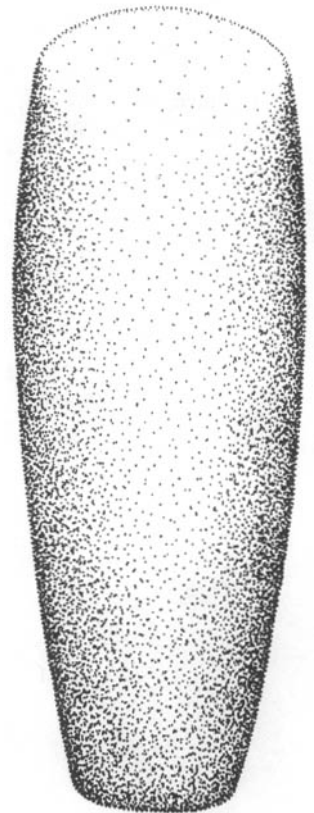
Paleo-Indian stage, but did not have weights. Calvin D. Howard (1983), among others, believes that the fluted points of the Paleolithic were used to kill megafauna and “are evidence that the atlatl was used for a minimum of nine millennia.”

Howard describes the spear-throwers by saying that they were “actually very simple devices, usually about one fourth to one third as long as the spears to be used with them. . . . The user holds both the spear and the handle of the atlatl with the same hand; during the thrust, the spear is released, but the atlatl remains in the user’s hand.”

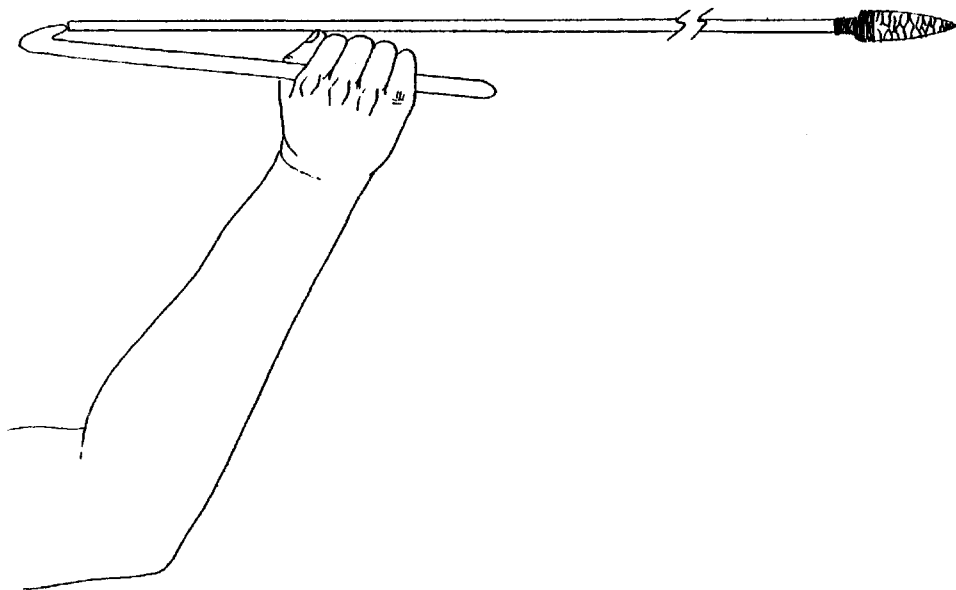
Howard explains that rather than “flipping” the spear through the air as is commonly thought, the atlatl increases spear thrust because it remains in contact with the spear longer than does the bare hand. When throwing a spear with the bare hand, the thrower must release his grip on the spear before his hand starts into the downward portion of the throw. When the atlatl is used, the spur at the aft end remains in contact with the butt end of the spear after the hand — at the front end of the atlatl — has released the spear. This brief additional contact gives the spear approximately fifty-eight percent greater thrust than that available from the bare hand. In addition to



Stanly Stemmed point



Ungrooved ax or celt
(One-half actual size)



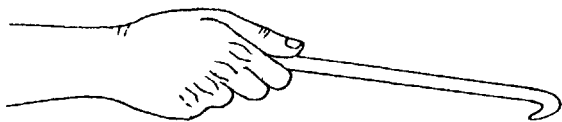
Beginning to throw a
spear with an atlatl

thrust, the atlatl also improves accuracy by providing the user with two gripping areas on the spear: the location of the hand, and the location of the spur at the aft end of the spearthrower. This dual gripping provides greater control with its corresponding increase in accuracy.

It is the addition of the bannerstone weight that causes controversy. Although it is agreed that the bannerstones do appear during this period, how they were used is problematical. Assumptions about their use as weights are based upon the discovery of polished stone artifacts found with well preserved Basket Maker 11 atlatls in the Southwest.

A ceremonial motive is sometimes inferred based upon what John L. Palter (1976) describes as the "linear alignments of socketed, antler atlatl hooks, handles, and drilled atlatl weight from the 'McLean II' site beside the Green River in Kentucky and from the excavation of burial pits at Indian Knoll." But as he states, "A survey of the ethnographic and ethnohistoric literature pertaining to peoples around the world known to have used the spearthrower fails to reveal any similar practices of securing stones or any other objects to the shaft of these weapons."

By 3000 B.C. the extremely hot and dry climate of the Hypsithermal



Having thrown a spear
with an atlatl

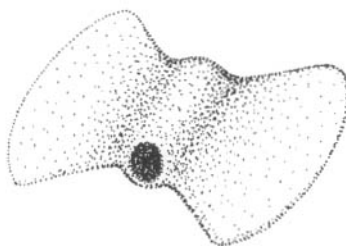
had ended. Pollen analyses indicate that the arboreal pollen increased as oak-dominated bottomland forests and swamps expanded. The spread of deciduous forest resulted in an increase in game and wild plant foods, supplying a more stable food resource with a greater likelihood for the creation of surpluses. Some of the animals which were hunted or caught included shellfish, fish, deer, rabbits, raccoons, squirrels, opossums, turkeys, ducks, geese, and turtles. These animals could be killed by solitary hunters and did not require the team effort necessary to bring in the larger mammals hunted by the Paleo-Indians.

Analyses of faunal remains show that nuts were a primary food source, but squash, greens, berries, and tubers were also eaten. As a result of the rich food supply, human occupation intensified and the Late Archaic began.

The number and size of sites found from this period point to the rise in population. There is also an increase in the types and complex-

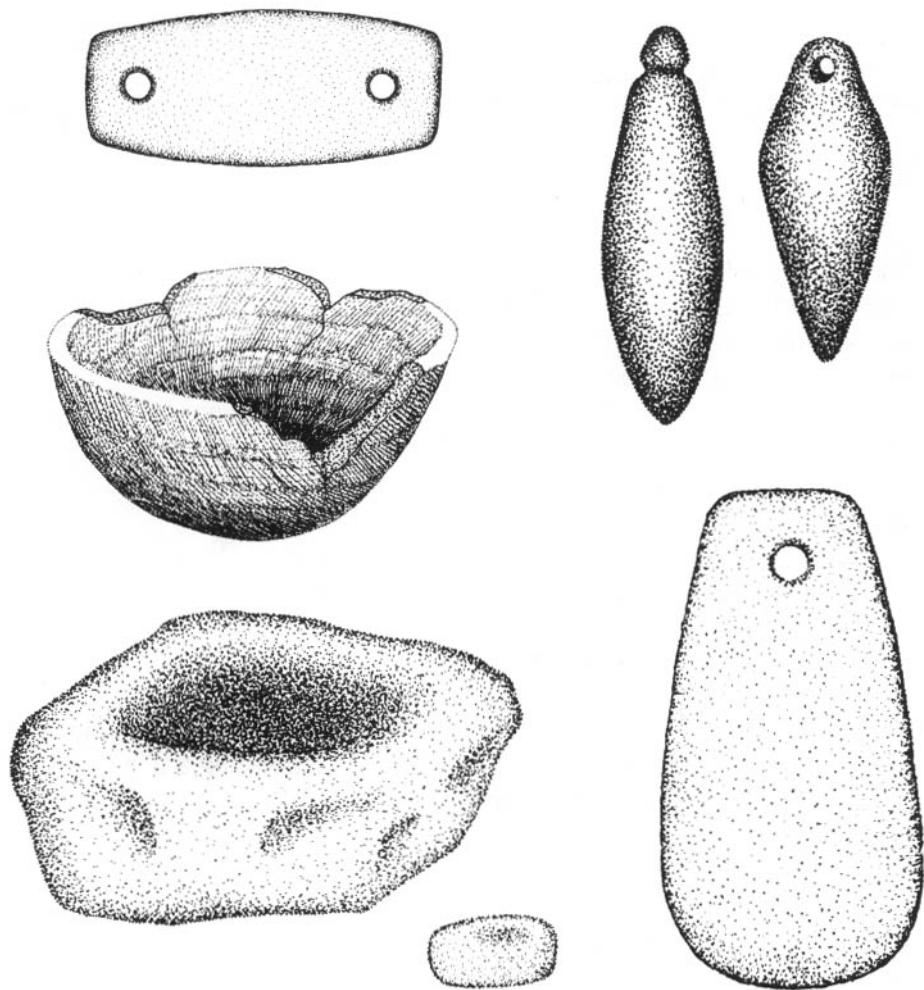
ity of artifacts found, indicating that time was available for their manufacture. This would seem to give further evidence of a food surplus.

This increased complexity is illustrated by the development of such things as a "lapidary industry," by which is meant the working of a great number of stone artifacts from exotic materials such as feldspar, jasper, hematite, quartz crystals, quartzite, schist, shale, slate, and talc, among others. Many of these stones had come from great distances, indicating that some sort of trading pattern existed among the groups. Artifacts manufactured included bannerstones, beads of various forms, grooved and ungrooved axes (celts), effigies,



Bannerstone
(One-half actual size)

Clockwise from top left: gorget; two plummets; pendant; stone mortar and grinding stone (one-fourth actual size); and steatite bowl (one-sixth actual size).



gorgets, plummets, and pendants. These items were most often chipped and abraded, then polished.

According to Dan and Phyllis Morse (1983), these items were not the work of specialists but “were

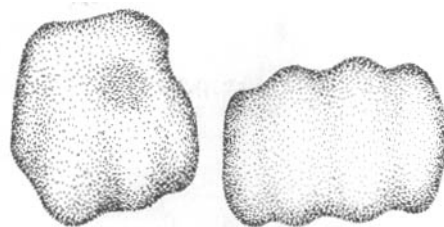
the product of a basic household economy. There were no skilled specialists involved, only solid craftsmen in most households who could combine skill and patience to make these artifacts. . . . There were no true craft specialists in Late

Archaic society, but there probably was, as earlier, a lot of leisure time."

Stone mortars and grinding stones are also found, although the exact date of their introduction is unknown.

Another important addition are the large steatite and sandstone bowls found from this period. These vessels not only indicate a more diverse technology, but since they tend to be quite heavy, would indicate a more sedentary lifestyle, especially in view of the fact that they are found in combination with large numbers of other artifacts. People who move around frequently tend to burden themselves with fewer, and lighter, possessions. A more sedentary life-style, in this case a shift to seasonal migration, allows for a greater accumulation of material wealth.

It is believed that the ancient Southeastern peoples developed tribal societies sometime during the Late Archaic. Like bands, tribes are based upon family units but the tribes are more complex, making larger populations possible. Families would join together into tribal settlements when the food resources permitted, such as during fall, winter, and early spring. In the colder months, they would live in rockshelters and caves. From there they



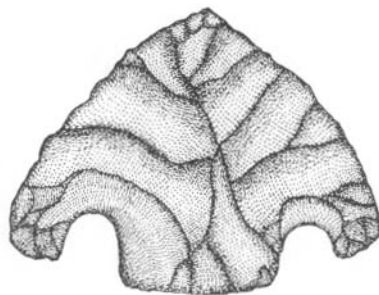
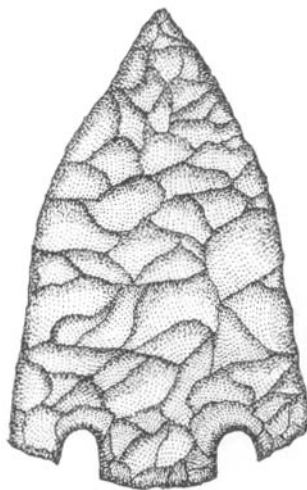
Cooking balls
(One-half actual size)

would gather ripening nuts and flora in the fall, and fish and hunt for deer and duck during the wet winter. In the spring and summer, they would move down to riverine sites from which they would hunt game, collect freshwater shellfish, and gather the wild plant foods abundant during those seasons.

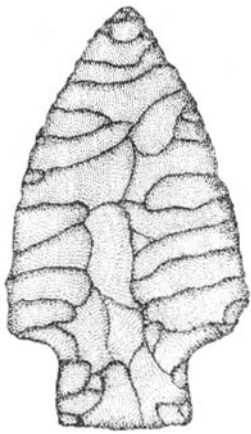
Some of the most diagnostic artifacts of the Late Archaic are cooking balls, which are referred to as



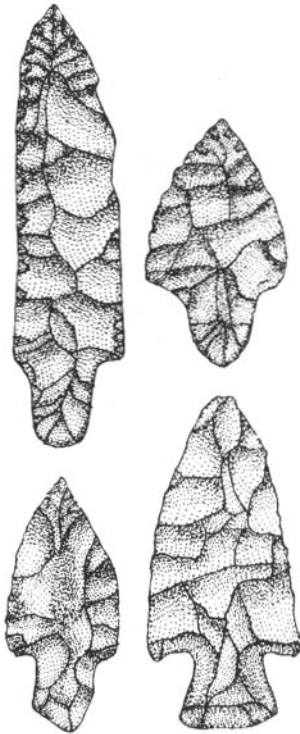
LeCroy point



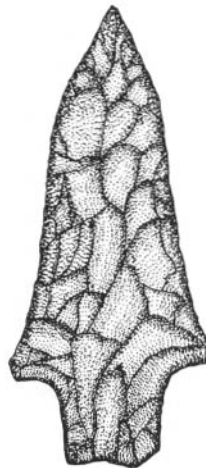
Left: Eva I point; above:
Eva II point.



Benton Stemmed point



Gary points



Ledbetter Stemmed point

"Poverty Point" objects. Named for the Poverty Point site in West Carroll Parish, Louisiana, these baked clay objects are what Robert W. Neuman (1984) describes as "characteristically hand-sized, sometimes decorated, untempered clay objects of various shapes, which were fired and used just as people today use briquettes for baking and roasting food. These baked-clay objects substitute for stone in regions where that commodity is inadequate or absent." Although there are plenty of stones available in the Southeast, their high quartz and/or silica content makes them unsuitable for this purpose.

Tubular pipes were also made of baked clay.

Projectile points associated with the southeastern Late Archaic were generally large and stemmed and include the Eva, Benton Stemmed, Gary, Ledbetter Stemmed, Pickwick, Saratoga, Savannah River, Turkeytail, Delhi, and Wade.

LeCroy points, also called LeCroy Bifurcated Stem, are medium-sized points, often having serrated edges and triangular blades. Their most distinctive trait is a base which has been deeply notched.

The Eva projectile points are divided into types I and II. Eva I points have large basal notches and often have slightly outward-curving

or sharply angular blade outlines, with barbs extending to the base. They first appear in the Middle Woodland about 5000 B.C. Eva II are slightly smaller, with straight or slightly inward-curving outward edges. The notching is the same as in Eva I, but the barbs may not be even with the base.

The Benton Stemmed are medium-to-large randomly flaked points with beveled bases. The shoulders are narrow, whether straight or slightly tapered. In cross-section, the point appears flat to bi-convex.

Gary points are triangular in outline and have stems that come either to a narrow point or a rounded base. The shoulders tend to flare outward coming to almost a right angle.

The Ledbetter Stemmed have large, narrow blades that are roughly straight, but may curve slightly. They are randomly flaked. The Ledbetter Stemmed often has barbs of unequal height and angle, and the stems are relatively short in comparison with the blade.

The Pickwick is related to the Ledbetter Stemmed but has blade edges that curve slightly outward and shoulder barbs that are more equal. Because it is percussion thinned, it is sometimes slightly twisted in outline.

The Saratoga cluster includes the descriptively named Saratoga Broad Bladed, the Saratoga Parallel Stemmed, and the Saratoga Expanding Stem. All have straight, broad bases. The Broad Bladed variety have narrow shoulders that are straight to slightly downward-sloping. On the Saratoga Parallel Stemmed, the stems are fairly straight, and in the Expanding Stemmed variety they flare slightly outward toward the base.

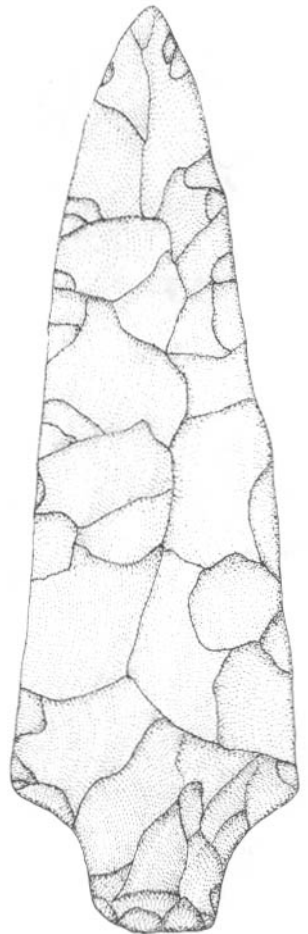
The Savannah River cluster projectile points are large and triangular in outline, with a long blade. The shoulders tend to be at right angles to the stem and are not barbed. The base is usually concave but may be straight to slightly rounded.

The Turkeytail points have long, thin blades. The shoulders are small and the base comes to a distinctive triangular-looking point.

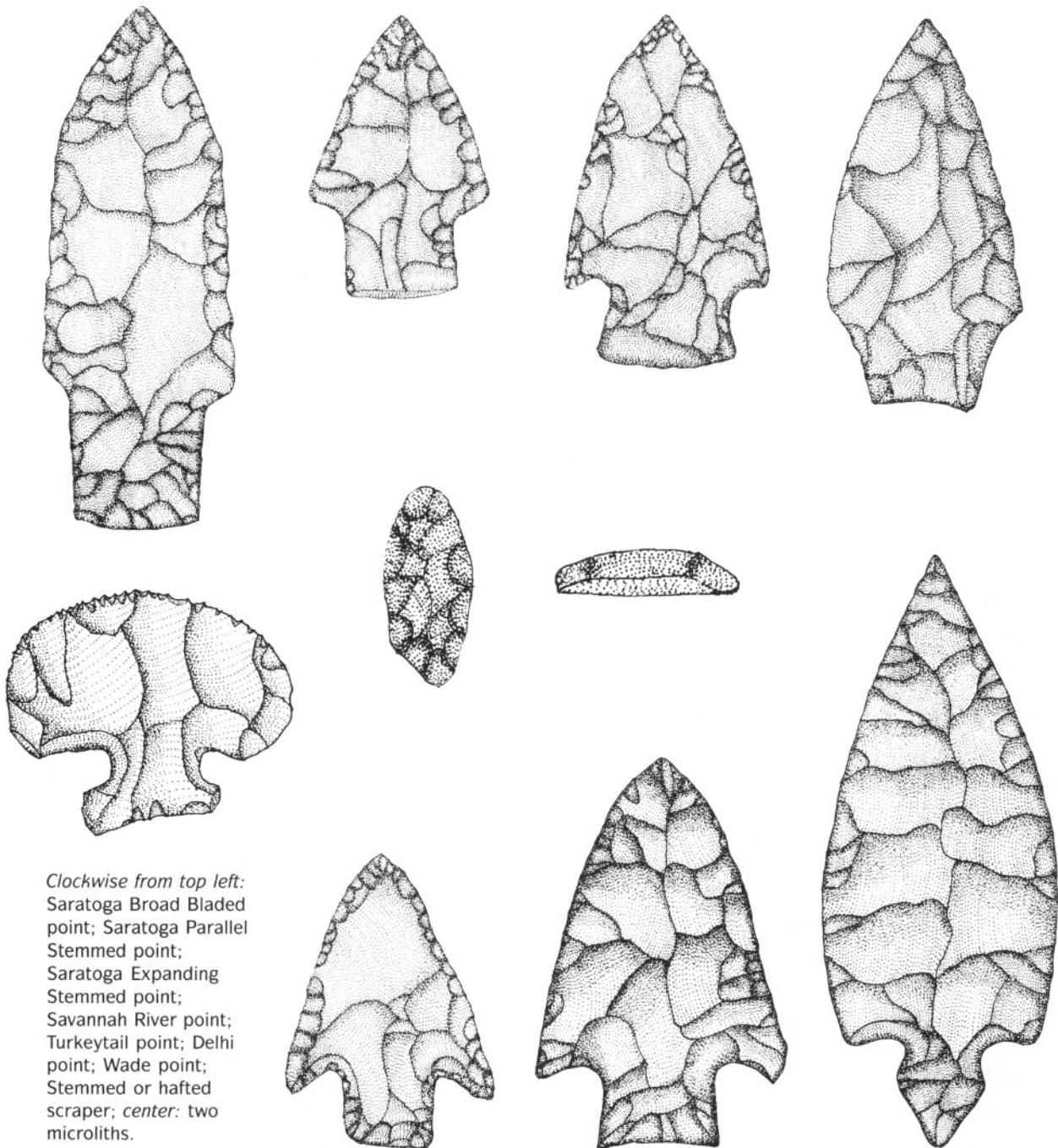
Delhi projectile points have barbed shoulders and generally long, triangular-shaped blades, and straight stems. The stems tend to be squared to slightly outward-flaring at the base.

The Wade points are roughly triangular, although the blade edges may curve slightly outward. The bases are straight with narrow basal notches. The elongated shoulders are barbed.

Except for stemmed end scrapers



Pickwick point



Clockwise from top left:
 Saratoga Broad Bladed
 point; Saratoga Parallel
 Stemmed point;
 Saratoga Expanding
 Stemmed point;
 Savannah River point;
 Turkeytail point; Delhi
 point; Wade point;
 Stemmed or hafted
 scraper; center: two
 microliths.

and drills made from still-recognizable reworked projectile points, most of the drills, scrapers and blades found in the Archaic resemble those from the Paleo-Indian stage.

Small worked stone tools called microliths or flint microtools also date from the Archaic. These small artifacts are typically narrow parallel-sided or slightly tapering blades. According to John Walthall (1980), these were multipurpose

tools used as perforators and scrapers.

A number of artifacts were made from bone, including projectile points, awls, and beads.

These developments in technologies and in social adaptations prepared the Archaic peoples to move from food collection to food production and from seasonally sedentary lives to fully sedentary ones, positioning them to enter the Woodland stage.



Bone awl

The Woodland Stage

The transition between the Archaic and the woodland stages is generally tied to the introduction of pottery, and because pottery appeared in different areas at different times, the date of the end of the Archaic and the beginning of the Woodland also varies. The earliest pottery in the Southeast was found in the Stallings Island culture, located in Georgia, North and South Carolina, and Florida. Dated to approximately 2500 B.C., these artifacts would designate an end to the Archaic that was much earlier than the 1000–500 B.C. date assigned in other areas of the Southeast. In general, the Woodland can be said to have begun along the eastern and coastal sections of the South-

east and to have worked its way up and out from there.

The Stallings Islands sites and those of the Gulf Formational Stage, as the coastal Early Woodland is called, share so many attributes with the earlier Archaic that they are best seen as transitional. Steatite bowls and large, stemmed spear points are still present, as are many other Archaic tools.

The earliest manufactured containers were probably made from animal hides, which were efficient for storing liquids. Baskets made from plant materials were useful for storing solid foods such as nuts and grains, but neither kind of container worked well for cooking. Cooking balls (the Poverty Point objects of

the Archaic) helped somewhat by supplying a source of heat. The steatite stone bowls of the Archaic would have been efficient cooking vessels, but they were heavy and time-consuming to make. The development of pottery was a tremendous step forward. Ceramic pots were light and durable; in addition to being effective cooking vessels, they provided storage for surpluses. Surpluses meant a more sedentary way of life. The Woodland Indians began to live in larger groups and to develop simple farming techniques and settle into small villages.

Making pottery involved collecting, cleaning, drying, and pulverizing clay, then mixing it with water and sometimes a tempering agent, such as sand, bone, shell, or plant material, which enables the pot to fire and dry without cracking. The maker would use one of three different methods to form the pots. In molding, the clay was pressed against the sides of a basket or wooden or stone mold from which the pot would take its shape. In coiling, the clay was made into ropes that were wound around and placed one upon another. In modeling, the clay was pinched and pulled into the desired shape, then smoothed into form. Decorating, which could occur before or after firing, involved incising (marking the wet clay with a sharp tool), stamp-

ing (striking the wet clay with a textured object, such as a carved paddle), punctuating (punching the wet clay with a finger or sharp object), smoothing (polishing the wet surface), pinching the wet clay, engraving (scratching in the design after the pot was fired), or painting.

The appearance of pottery also indicates an even more sedentary lifestyle as it takes a month or so for the clay pots to dry sufficiently before firing. It is also true that because ceramics are so breakable, they are difficult to move from place to place.

The earliest southeastern pottery, of the Stallings Island phase, dated to 2500 B.C., was tempered with Spanish moss, which Michael B. Trinkley (1989) describes as carbonized, producing a "hole-tempered" pottery of high porosity. Vessel forms include simple shallow bowls and large, wide mouthed bowls, as well as deeper jar forms [which look like oversized drinking glasses]. The pottery is generally molded, although coiling fractures are occasionally present, particularly later in the period. Firing was poorly controlled, and the pottery was incompletely oxidized. The pottery was decorated with punctations (using periwinkle shells, reeds, and sticks), finger pinching, and incising.

Other associated Stallings Island artifacts are stemmed projectile

points (including Savannah River Stemmed), worked shell, engraved bone pins, plummets, steatite disks (thought to be sinkers for nets), and scrapers.

In Florida, some pots dated to about 2000 B.C. are shallow, circular-to-rectangular, flat-bottomed vessels. Assigned to the Orange phase, these, too, are fiber-tempered and can be plain or decorated with incisions drawn into the wet clay or punctuated with little indentations. Once again there are stemmed projectile points and scrapers, as well as steatite vessels. Other artifacts include bone tools such as awls, fishhooks, and projectile points, and hammers and celts made from univalves.

Roughly contemporaneous with the Orange sites is the Thom's Creek phase, centered further north. The coiled pottery there was made with sand tempering or with untempered clay. Decorations include reed or shell punctations, finger-pinching, incising, and stamping. The shapes include shallow bowls and the deep jar forms. The Savannah Stemmed points are smaller. Bone pins and shell tools, including scrapers, are also found.

By around 1200 to 1100 B.C., sand or stone tempering is found all through the eastern sections of the Southeast.

The Refuge phase pottery is much

like the earlier Thom's Creek, in that the tempering is sandy or gritty. Ceramic surface decorations include stamped and random punctations.

The Deptford phase, which takes its name from a site east of Savannah, Georgia, is found down into Florida along the Gulf Coast (and, later, westward). Once again, the tempering is sandy, but the pottery typically has been decorated with a "check stamped treatment," although other decorations include geometric stamping (triangles or diamonds with dots) or simple stamping. Basic forms are the curved-bottom jar or the flat-bottomed, tetrapodal (four-footed) bowl. Because stone, bone, and shell tools rarely appear, some archaeologists have speculated that the Deptford peoples used many wooden tools. Some small stemmed points and medium-sized triangular points are associated with this phase.

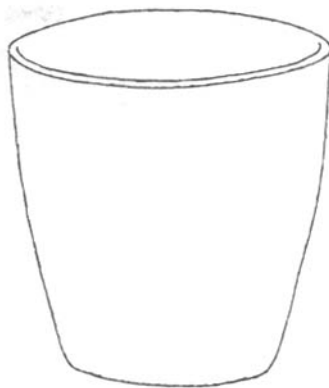
About 1000 B.C., the Norwood series, a type of pottery tempered with fiber-containing sand, appeared in northwestern Florida. Simple stamping served as its only decoration. Jasper beads, Poverty Point-like cooking balls, and steatite pottery indicate the presence of some kind of trading network.

Fiber-tempered pottery began to appear along the Mississippi coast about 1200 B.C. and spread from there up the lower Mississippi River

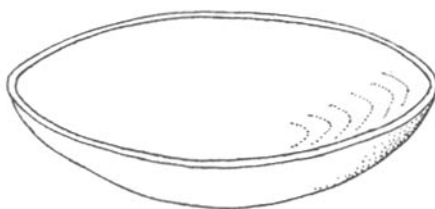
valley and into the Tombigbee River drainage system. This type of pottery reached the middle Tennessee River valley about 1000 B.C. and joined with the incumbent Poverty Point culture of the Late Archaic, marking the transition into the Early Woodland at about the same time the eastern areas of the Southeast were going into the Middle Woodland, as was indicated by the appearance of stone-tempered pottery.

This rather complicated chronology clearly illustrates that while the defining attributes of the various stages remain fairly constant, their appearance and disappearance, in different areas of the Southeast varies. Thus this discussion will be limited to the broad divisions of the Early, Middle, and Late Woodland stages and will operate on the assumption that they occurred at different times in different places. In the eastern sections, the Woodland period began about 2500 B.C.; in the coastal sections of Alabama, across the Mississippi coast, and up the river drainages it is dated about 1000 B.C.; and in the Arkansas and central Mississippi Valley areas it began about 500 B.C.

Generally, the earliest pottery was fiber-tempered. The clay was most often modeled into shape or coiled. Typical shapes were the cylindrical deep jar form, the hemispherical



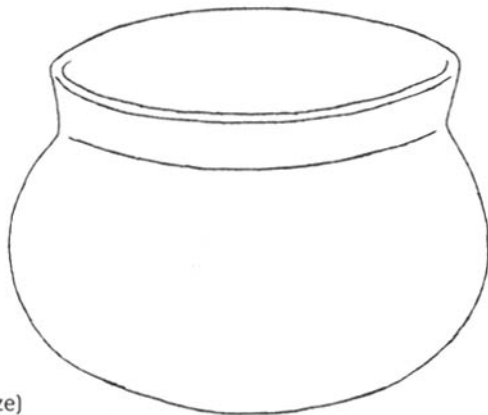
Jar form pottery
(One-sixth actual size)



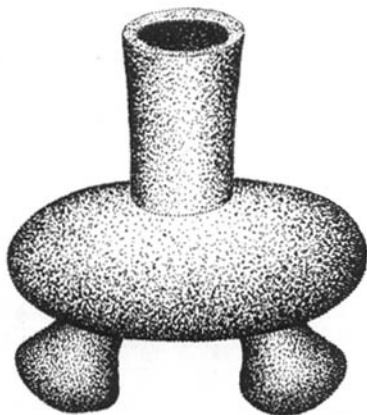
Shallow bowl
(One-sixth actual size)

bowl, and the shallow bowl. These were decorated with incising, punctuating, finger-pinching, tool impressing, or stamping. Some of the forms had four feet or a circular ring attached to the bottoms.

During the Early Woodland stage, the stemmed projectile points familiar from the Late Archaic were still being used, although they tended to be somewhat smaller. Microliths, blades, scrapers, drills, knives, and graters were also much like those of the earlier Late Archaic. Trade apparently was increasing, since the lapidary items of the Poverty Point culture as well as cooking balls,



Rimmed bowl
(One-fourth actual size)



Tripodal bowl
(One-fourth actual size)

such as those found in Louisiana, are also found in Florida. Pendants, gorgets, plummets, celts of various materials, and steatite (from Appalachia) objects are found throughout the Southeast.

Toward the end of the Early Woodland, there was a shift to mineral-tempered pottery, whether sand, ground rock, or limestone. Some pottery was tempered with

the crushed sherds of broken pottery. Bowls and jars were decorated with stamping and fabric impressing. Some rims were made to flare, and feet were sometimes added. Large triangular points appear as do polished stone celts and gorgets.

The development of horticulture included the addition of squash, cultivated earlier in the eastern section, to plants of local hardiness such as sunflowers, pigweed, marsh elder, and lamb's-quarters. Hunting and the gathering of wild plant foods, especially nuts and shellfish, still contributed substantially to the diet.

It is believed that the peoples of this stage lived in what John A. Walthall (1980) calls "segmentary tribes." These were

small, local communities that rarely included more than a hundred members and most commonly claimed no more than a few square miles of territory. These communities were generally organized through a single descent group or lineage or, at times, by an association of several lineages. Each communal group was politically equal. While these primary political segments constituting the tribal whole might ally for a time and purpose, such as warfare or ceremony, the union was episodic. As soon as the objective of the alliance was ac-

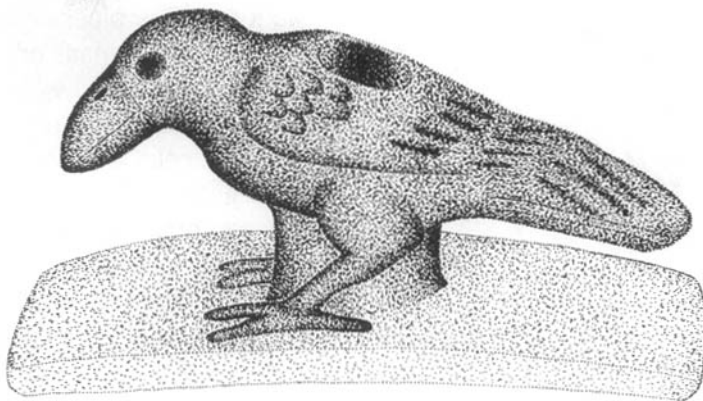
complished, the tribe returned to its normal state of disunity.

It was during the Middle and Late Woodland that the Hopewell culture, which had its center in Ohio and Illinois, began to influence the central and western Southeast, if only sporadically. Only the Atlantic coast areas and southern Florida were little affected.

Hopewellian objects tend to be very distinctive and are often highly prized by collectors. According to Jesse D. Jennings (1968), it is important to realize that the Hopewell data "reveal less a culture than a cult because the concern with death and the preparation of mortuary furniture led to lavishness in the ritual artifacts."

The Hopewell peoples built the burial mounds that are found over a large area of the eastern United States. Jennings goes on to describe Hopewell artisans as "superbly competent; there were ceramists, sculptors in stone and bone, skilled flint knappers, and coppersmiths, all possessing exquisite artistry."

The Hopewell was a well-organized society, headed by an elite upper class. Because of developed trade networks, copper items such as ear ornaments and bracelets from the Great Lakes region could be found much farther south,



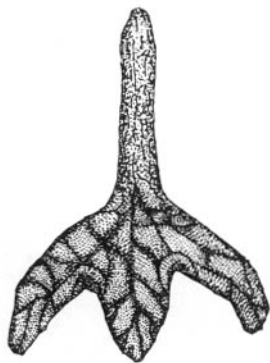
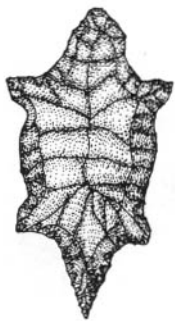
Effigy pipe

and necklaces made of alligator teeth have been discovered in Ohio.

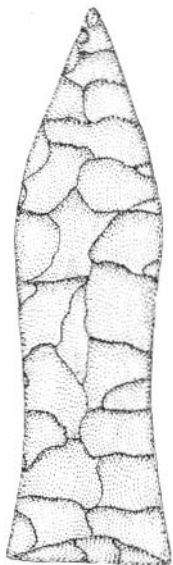
Southeastern cultures believed to have been influenced by the Hopewell, if only intermittently, include the Copena of the Middle Tennessee Valley, the Marksville of the lower Mississippi Valley, the Santa Rosa of Florida, and the Swift Creek of Georgia. These are not, however, clones of the Illinois-Ohio Hopewell culture; they are local manifestations. Some archaeologists, including Stephen Williams and Jeffrey P. Brain (1983), believe that while Hopewell influences should be recognized, "the overall cultural system is best conceived as an indigenous phenomenon. Hopewellian is then reserved for the core development in the Illinois-Ohio regions and the interregional events that may be directly associated with that development."



Chipped drill



Two Effigy drills



Copena point

Ceramic platform effigy pipes and vessels in the shapes of humans or animals are found, as are elbow pipes. There are also steatite pipes, polished greenstone celts and hoes. Copper items include beads, gorgets, earspools, bracelets, and celts. The mica items include the bear claws and bird talons often associated with the Hopewell. The ceremonial or "fine ware" pottery has stamped designs, whether simple or complicated, as well as fabric-impressed and incised decoration that was applied all over the exterior of the vessel. The plainer domestic pottery was much less highly decorated.

Triangular points such as the Copena and stemmed points such as the Steuben Expanded Stemmed, Bakers Creek, and Coosa are found in addition to microflints, scrapers, drills, and knives. Bone and shell were also used, for beads as well as for tools.

Copena points are medium-to-large triangular points with distinct curved edges. Although this type has been associated primarily with the Woodland, it is sometimes found in Late Archaic sites in Tennessee (Cambron and Hulse 1964).

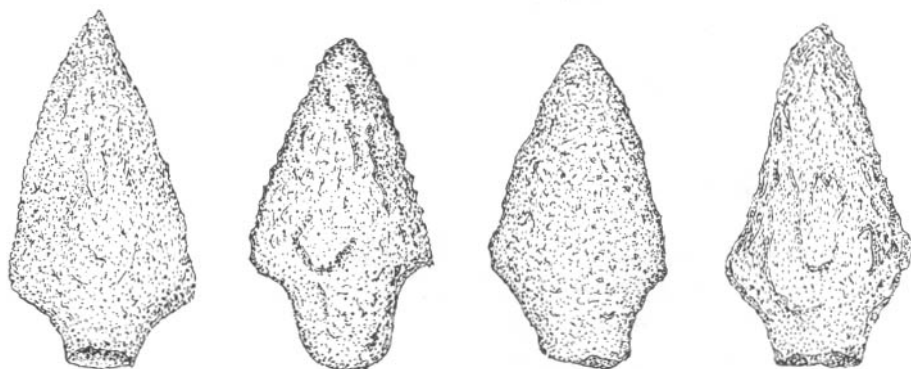
The Steuben Expanded Stemmed, associated primarily with the Hopewellian culture, is found in Arkansas, Tennessee, Kentucky, and

Mississippi, as well as in the main focus area farther north. It is a medium-to-large broad-stemmed point, with a straight-to-convex base, outwardly curved edges, and corner notches.

The Bakers Creek point, sometimes called the Stemmed Copena, is a medium-sized randomly flaked point, with a broad expanded stem and narrow shoulders. The sides are straight to slightly curved.

The Coosa point is a thick, small to medium-sized point with random flaking, often made of a poor grade of local flint sometimes called "sugar quartz." The blade edges have sometimes been serrated by re-touching. The Coosa Notched variety has slightly downsloping shoulders formed by shallow side notches.

The Late Woodland can be seen as a continuation of the Middle Woodland and a transition into the Mississippian, which follows. In some places, such as the Mississippi Valley, the Late Woodland suggests a decline, as the Baytown culture, with its "universally drab, Woodland-inspired pottery—coarse, utilitarian, and of limited decorative value" (Williams and Brain 1983) replaces the more elaborate Marksville. However, elsewhere, such as along the Gulf Coast from central Florida west to Mobile, "a new vig-



Coosa points

orous cultural manifestation [known as the Weeden Island Culture] emerged as Hopewellian influence in the Southeast was on the wane" (Walthall 1980).

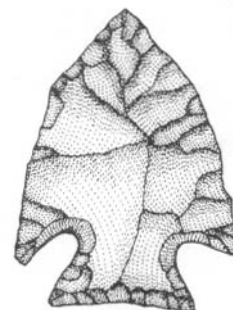
Following the Baytown culture in the lower Mississippi Valley was the Coles Creek culture, which Stephen Williams and Jeffrey Brain describe (1983) as a "florescence. The greater number of permanent settlements, the multiple mound ceremonial centers, the inferred social stratification and organization all point to a new order founded in major innovations in agricultural and hunting practices, and stimulated by other external and internal sources."

The agricultural practices they speak of refer to the cultivation of corn and the new hunting practices to the use of the bow and arrow. These innovations, which were intro-

duced from outside the Southeast, gradually spread throughout the region and are considered to be diagnostic traits of the Mississippian Stage.

According to Noel D. Justice (1987), the Jack's Reef Corner Notched points "appeared in the Northeast at ca. A.D. 500 and are diagnostic of the latter part of the Middle Woodland and Late Woodland periods. They probably represent one of the first true arrowheads in the eastern U.S." These points have thin triangular blades and corner notches.

Scallorn and Sequoyah arrowheads are attributed to both the Late Woodland and Early Mississippian stages in the western regions of the Southeast. The Scallorn projectile points, small corner-notched points with straight bases, sometimes have serrated edges. Se-



Jack's Reef Corner Notched point



Scallorn point



Sequoyah point

quoyah arrowheads have serrated triangular blades and convex bases.

The Hernando arrowheads are small triangular points with basal notches. Citrus points, similarly basal-notched, are larger and have curved edges.

The Racoon Side Notched is a medium-sized, side-notched point with a straight or concave base and squared ears. The blade edges are straight to outwardly-curving.

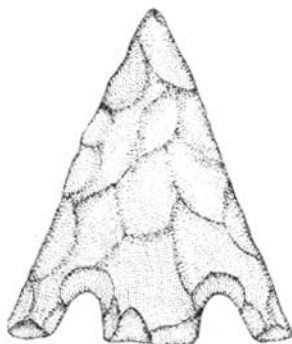
In addition to arrowheads, spear points and dart points continue to be attributable to the Late Woodland cultures. For example, artifacts found from the Bangs Slough site in southeast Arkansas (Schambach 1990) include Gary spear and dart points, more usually assigned to the Poverty Point culture.

As Barbara Purdy (1986) states of the Florida chipped stone materials,

Many points from this period are small, perhaps signaling the appearance of the bow and arrow, but the continued uncovering of larger points indicates that the spear was not entirely replaced.

Workmanship is usually crude and reinforces the conclusion that stoneworking had declined and was not considered a prestigious occupation. Chipping often does not cross the face of the point. Sometimes the points are merely shaped flakes with some pressure retouch on the edges. Some of the projectiles appear to be reworked archaic forms.

It is important to remember that while hunting continued to play a large part in the subsistence activities of the Woodland and following Mississippian cultures, it had lost its place as the dominant means of procuring food. Points were made of the more easily acquired local materials and were manufactured to do a job that was no longer of primary importance. As William L. Rathje writes (1977), "Material culture is not merely a reflection of human behavior; material culture is part of human behavior." Thus these points did the job they were manufactured to do; nothing more was required.



Hernando point



Racoon Side-notched point

The Mississippian Stage

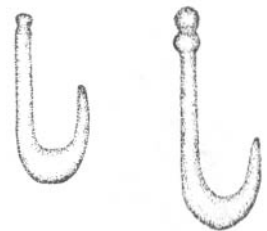
The Mississippian stage began about 700–800 A.D. in the central Mississippi Valley. Dan and Phyllis Morse write (1983) that it was “a new way of life and embraced kinds of technology and a new relationship to the environment. It was undoubtedly the closest that the prehistoric Central Valley came to a cultural revolution, as contrasted with the more gradual evolution experienced before about A.D. 700. Although there was continuity from Baytown to Mississippian, the transition was rapid and the consequences enormous.”

The new way of life involved a change from the earlier tribal societies to chiefdoms. These larger

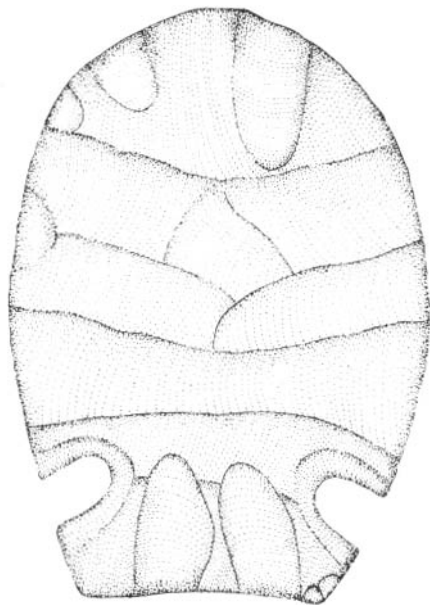
population centers were less mobile than the tribal villages had been. Whereas a tribe could migrate seasonally to take advantage of changing ecological resources, the chiefdom population centers stayed put.

The centers were located within what Bruce D. Smith (1978) calls “floodplain habitat zones.” These were the river valleys of the Southeast, where alluvial soils were easily tilled and food resources were concentrated.

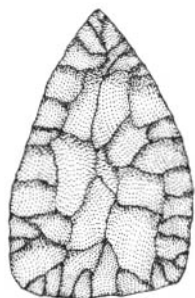
Smith further states that the Mississippian cultures had a “compromise settlement system” made up of “relatively large, often fortified settlements, located centrally to a



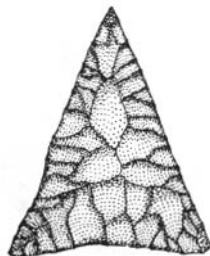
Bone fish hooks



Flint hoe



Jack's Reef Pentagonal point



Madison point

dispersed settlement pattern of small homesteads." The fortified settlements served as ceremonial centers, with "the capability of containing the total local population within its fortifications during periods of hostility with neighboring populations." A significant percentage of the people lived in surrounding dispersed farmsteads, with the center village being the permanent home of only a small number.

In Smith's model,

With most of the family units distributed in small scattered homesteads, and only occasionally visiting the local center, Mississippian populations during peaceful times could be best characterized as having a partially occupied

ceremonial-center-dispersed-homestead settlement pattern. During periods of prolonged hostilities, on the other hand, homesteads would be all but abandoned as the entire population took up residence either in close proximity to, or actually within the fortification walls of, the local center.

The Mississippian peoples relied upon the cultivation of corn, beans, squash, sunflowers, marsh elder, gourds, and pumpkins, as well as other local plants. They also collected wild foods such as hickory nuts, acorns, walnuts, berries, persimmons, plums, turtles, and shellfish. Bone and copper hooks as well as traps and weirs were used for catching fish. They hunted with bows and arrows tipped with small, triangular points to bring in waterfowl, turkey, raccoons, and deer (Smith 1978; Walthall 1980; Schambach 1990).

Artifacts connected with the cultivation of crops include flint and mollusk shell hoe blades and processing tools such as manos and metates (grinding stones and slabs).

As the Mississippian peoples grew to be more dependent upon agriculture, hunting and gathering became supplementary activities, although fish, migratory waterfowl, and shellfish remained important food sources for the riverine cultures. Marine and freshwater shell-

fish also provided materials for making hoe blades, beads, dippers, bowls, and gorgets.

In hunting, the emphasis was on efficiency, or what John A. Walthall (1980) calls "maximum meat yields with the minimum of effort." Walthall quotes Bruce Smith:

The projected yearly cycle of animal exploitation by Middle Mississippian groups can be divided into two basic seasons: a summer season during which various species of fish were the most intensively exploited, with aquatic species of turtles and perhaps rabbits being of secondary importance, and a winter season of exploitation during which a wide variety of terrestrial mammals, migratory waterfowl, beaver, and turkey were taken. The whitetail deer was the most important animal species taken during this winter hunting period.

The arrowheads used were primarily triangular in outline.

Madison points are straight-sided triangles with straight to slightly concave bases. The Mississippi Triangular point was latter renamed Madison (Williams and Brain 1983).

The Fort Ancient point is a small to medium-sized slender triangular point that is usually deeply serrated. The base varies from straight to convex. In cross-section the point is biconvex.

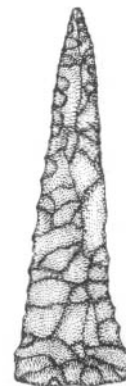
Other Late Woodland and Mississippian triangular forms include such regional variations as the Caraway Triangular, the Clarksville Small Triangular, the Fresno, the Pinellas, and the Roanoake Large Triangular.

Nodena Elliptical points are not triangular but lanceolate and sometimes serrated. The Nodena Banks points have straight bases and are roughly lanceolate in outline with outward-curving sides.

The Scallorn and Sequoyah types described for the Late Woodland continue to be found into the Mississippian stage.

Other artifacts associated with processing of game animals include scrapers of various types – including hafted, oval, side, and thumbnail – and knives.

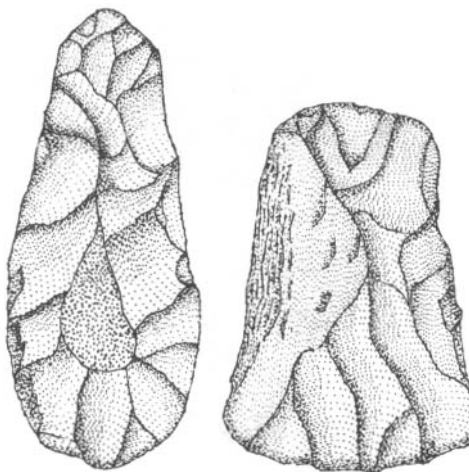
Adzes, bifaces, choppers, drills,



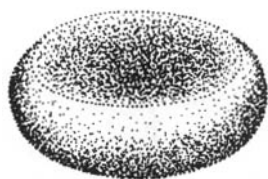
Fort Ancient point



Nodena point



Scrapers



Disoidal
(One-fourth actual size)

gravers, microliths, and spoke-shaves were other flaked tools still being made, although as Barbara Purdy (1981) writes, "Chipped stone tools recovered at sites of this period tend to be rather non-descript."

A new artifact type that appeared in the Late Woodland but is more closely associated with the Mississippian is the disoidal or chunky (or chunky) stones. These are round and flat or, more usually, convex on both sides. They were used in a game described by George Catlin:

The play commences with two (one from each party, who start off upon a trot, abreast of each other,

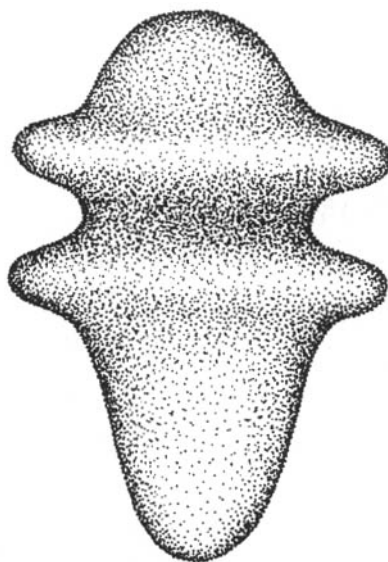
and one of them rolls in advance of them, on the pavement a little ring of 2 or 3 inches in diameter, cut out of a stone; and each one follows it up with "tchung-ke" (a stick of 6 feet in length . . .), which he throws before him as he runs, sliding it along the ground after the ring, endeavoring to place it in such a position when it stops, that the ring may fall upon it (Dan and Phyllis Morse 1983).

Although most disoidal are sandstone, some ceramic types are found.

Other ground tools include abraders, hammerstones, celts, grinders, and paint palettes, as well as the previously mentioned manos and metates.

Bone and shell items include awls, bone hooks, deer scapula hoes, drills, shell bowls and hoes, and beads and pins.

Although some of the stone, bone, and shell items — such as the ceremonial stone maces, sword blades, and celts and the bone and shell ornaments — are remarkable, the greatest artistry and variation in artifacts during the Mississippian stage is found in pottery. The term "ceremonial" is not always applied to objects that would have had religious significance such as use in ceremonies or as burial goods; many of these could have been high



Ceremonial stone mace
(One-half actual size)

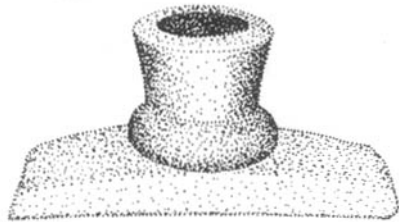
prestige items or been used for trade.

Some of the simpler items include ladles, earplugs, and undecorated platform pipes. The Mississippian peoples also made undecorated, utilitarian pottery, usually roughly textured, shell-tempered, unpolished, and pale buff to gray or brown in color. A common form, called Mississippi Plain, is a globular-bodied bowl or jar with straight or slightly curving rims. Some variations have small handles, loops, or nodes on the sides.

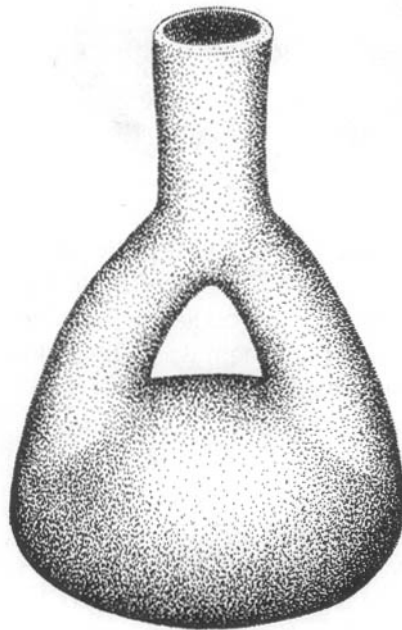
The fine ware probably would have been restricted to ceremonial purposes or trade. These were very finely textured, usually with shell, and many were highly polished and black, although the Cahokia varieties often have a red slip applied. Other varieties had “negative” designs, meaning that the design was left unpainted and was surrounded by a painted surface.

The decorations, which were engraved, incised, or painted on, consisted of arrows, crosses, the hand-and-eye motif, bones, animals, and sun circles.

There were bowls with flaring rims, long-necked jars, and an incredible assortment of effigy bowls. The effigies took the shapes of animals, including birds, mammals, and insects, as well as humans.



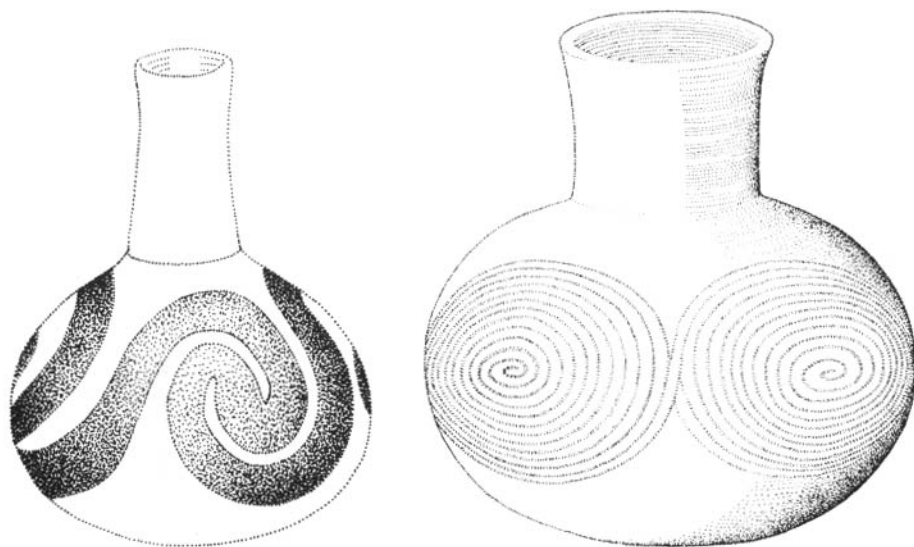
Platform pipe



Mississippian stirrup jar
(One-fourth actual size)

Some of the most beautiful examples of effigy materials found are platform pipes.

Many people assume that the end of the Mississippian culture was brought about by the coming of the Europeans. In fact, the culture was already on the wane by that time,



Mississippian pots
(One-fourth actual size)

although there can be little doubt that the introduction of European diseases into populations with no immunity to them was a final blow.

There continued to be warfare among the various chiefdoms. These conflicts might have been exacerbated by some ecological changes. It is known, for example, that in northwest Florida, the climate changed after 1450 A.D. to one of long cold winters and short drier summers. This would have affected the crops of the people living there and caused them to look elsewhere, including to their neighbors' surpluses, for food.

Stephen Williams and Jeffrey Brain (1983) write:

Whatever the causes, and surely

they were multiple and cumulative, the effect was to encourage increased population displacement, although the size of the groups themselves may have decreased markedly. The valley was opened to long-distance migrations, and many migrations can be cited in the protohistoric and early historic periods. . . . The Natchez, alone of all the major tribes, remained in their ancestral home until forced out by the French.

These ancient Native Americans left behind them only traces of their culture and their artistry, but it was enough to tantalize those who followed. Their artifacts provide us with glimpses into their lives and make us appreciate their genius.

Glossary

ABSOLUTE DATING The assigning of a numerical date to an item or attribute.

ARTIFACT An object that has been humanly modified or is the byproduct of human activity.

ATLATL A stick or board with a hook or projection at one end, which was used as an extension of the arm in throwing a spear or dart.

AWL A pointed tool used to pierce holes in leather or wood.

BANNERSTONE A problematical artifact believed by some archaeologists to have been used as an atlatl (spearthrower) weight.

BIFACE A stone tool that has been chipped on two sides.

B.P. Before present, traditionally meaning 1950.

CONTEXT The relation of an artifact or cultural remains to the surrounding artifacts or remains and to the soil level in which they were found. The surrounding conditions of an archaeological find.

CULTURE The integrated patterns of behavior, including artifacts and beliefs, shared by a group of people. Similar objects and technologies repeatedly found together over a wide area, which seem to reflect a particular group or way of life.

DENDROCHRONOLOGY Tree-ring dating. The dating of wooden remains by matching the growth rings of the studied wood with a known series of rings.

EFFIGY An object bearing the likeness of an animal or human.

ENGRAVING Scratching lines into the dry surface of an object (ie., pottery or metal).

EPICANTHIC FOLD An extension of the upper eyelid over the inner angle or both angles of the eye.

FLUTE A rounded groove, as in a projectile point.

GORGET An ornament, often perforated, to be worn around the neck or attached to clothing.

GRAVER A small, sharp tool used for decorating wood.

HALF-LIFE The time it takes for half of the atoms of a radioactive substance (ie. radiocarbon, C-14) to decay.

HORIZON The spatial range of a culture or cultural attribute.

INCISING Decorating pottery by cutting a design into the wet clay before it is fired.

INTERGLACIAL Between periods of intense glaciation.

LANCEOLATE Shaped so as to be tapered at one or both ends.

MEGAFAUNA The huge prehistoric mammals of the Paleolithic, such as mammoths and mastodons.

MICROLITH A small, long, and narrow stone tool.

MIDDEN A garbage heap or pile of refuse.

PALYNOLOGY The science dealing with pollens and spores.

PERCUSSION FLAKING Chipping stone by striking it with another stone, an antler, or a bone hammer.

PLUMMET A weight.

PRESSURE FLAKING Chipping of stone by pressing it with an antler or bone.

PROJECTILE POINT The attached end of a projectile, whether a spear, dart, or arrow.

RADIOCARBON DATING Dating an organic object by measuring the half life of the radioactive carbon (C-14).

RELATIVE DATING The assigning of a time period to an item or attribute in relation to another, dated item or attribute.

STAMPING Decorating pottery by repeatedly pressing it with a textured object, such as a fabric or textured paddle.

STEATITE A grayish-green or brownish soapstone.

STRATIGRAPHY The arrangement of geological layers.

TEMPER Use of an additive to strengthen and reduce shrinking of ceramics during firing.

TOOL IMPRESSING Decorating pottery by pressing a wooden tool or shell into the wet clay before firing.

TRADITION The temporal range of a culture or attribute.

This page intentionally left blank

Appendix A

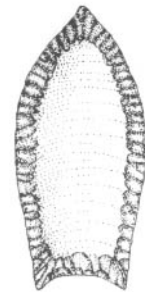
Additional Projectile Points

Typologists have classified and reclassified hundreds of projectile point types for the Southeast. Sometimes, the archaeologists discovering the point believe it at first to be unique and may give it a provisional designation. Other scientists, upon reading the reports, may attribute those points to be similar to others in their own collections. As a result of this interaction, points are named and renamed, classified and reclassified.

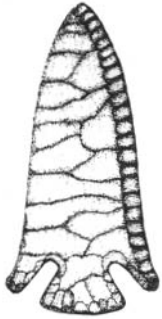
Because of space, time, and other factors, not every point type in the Southeast can be described, but, hopefully, a variety of the types commonly found can be. The following are additional points sometimes found by collectors.

The Big Sandy point is found throughout the mid-South and is attributed to the Archaic period. It is a small to medium sized point with side-notches. Random percussion flaking patterns cover the blade, but the edges sometimes show retouching. The sides are straight to slightly outwardly curving. The bases range from straight to concave.

The Cumberland point, described briefly on page 47, is a medium to large fluted point, with outwardly expanded blade edges narrowing to the base, and flaring ears. The base may be either single or multiple fluted on one or both sides. Noel Justice (1987) places the Cumberland in the Folsom cluster. It is Paleolithic in age.



Folsom point



Lost Lake point
(One-half actual size)

Named for a site in New Mexico, Folsom points are most commonly associated with Paleolithic sites in the western and Great Plains states, but it is also found in the western areas of the Southeast. Usually just less than 2 inches long and about half as wide, the Folsom has a single long flute on both faces. The widest point is generally on the upper half of the point. It has slightly outwardly curving symmetrical edges and no ears.

Kanawha Stemmed points are dated to the early Archaic and are thought by some to be ancestral to the Stanly Stemmed points. These are small points with short, shallowly notched bases, with rounded corners. The blade edges sometimes expand sharply at the shoulder.

The Lost Lake is a medium to large corner-notched point that is dated to the early Archaic. Similar to the Kirk Corner Notched point described on page 52, the Lost Lake has a beveled edge that Noel Justice (1987) attributes to resharpening. However James W. Cambron and David C. Hulse (1964) state that "The blade edges may or may not be serrated but are always beveled on one edge of each face."

The MacCorkle Stemmed forms are found in the upland South and are diagnostic of the Early Archaic period. They are large points that are triangular in shape. The widest point is at the ears and measures roughly one half the length. The ears are large and rounded. The bases are notched.

Palmer Corner Notched (or simply "Palmer") points are found throughout the Southeast and are usually assigned to the Archaic. These are small, corner-notched serrated points with a relatively straight heavily ground base.

Stanly Stemmed (sometimes referred to simply as "Stanly") points are found primarily in the eastern half of the Southeast. Dating to the Middle Archaic, these medium-sized points have broad, triangular blades sitting on narrow, squared stems with basal notches. According to Cambron and Hulse (1964), the Stanly points "usually have an angular break in the blade outline near the distal end."

Appendix B

State Archaeologists in the Southeast

ALABAMA

State Archaeologist
Alabama Historical Commission
468 S. Perry Street
Montgomery, Alabama 36130-0900
(205) 242-3184

ARKANSAS

Arkansas Archaeological Survey
P.O. Box 1249
Fayetteville, Arkansas 72702-1249
(501) 575-3556

FLORIDA

Bureau of Archaeological Research
Florida Department of State
500 S. Bronough Street
Tallahassee, Florida 32399-0250
(904) 487-2333

GEORGIA
Archaeologist
Office of Historic Preservation
205 Butler Street, S.E.
1462 Floyd Towers East
Atlanta, Georgia 30334
(404) 656-2840
and
Archaeological Survey
Department of Natural Resources
19 Martin Luther King Drive
Room 400
Atlanta, Georgia 30334
(404) 656-3214

KENTUCKY
Office of State Archaeology
Lafferty Hall
University of Kentucky
Lexington, Kentucky 40506
(606) 257-5735

LOUISIANA
State Archaeologist
Department of Culture, Recreation and Tourism
Division of Archaeology and Historic Preservation
P.O. Box 44247
Baton Rouge, Louisiana 70804
(504) 342-8170

MISSISSIPPI
State Archaeologist
Mississippi Department of Archives and History
Division of Historic Preservation
P.O. Box 571
Jackson, MS 39205-0571
(601) 359-6944

NORTH CAROLINA
State Archaeologist
Department of Cultural Resources
Division of Archives and History
109 East Jones Street
Raleigh, North Carolina 27601-2807
(919) 733-7342

SOUTH CAROLINA
Archaeologist
Department of Archives and History
P.O. Box 11669
Columbia, South Carolina 29211
(803) 734-8612
and
Office of the State Archaeologist
South Carolina Institute of Archaeology and Anthropology
1321 Pendleton Street
Columbia, South Carolina 29208
(803) 777-8170

TENNESSEE
State Archaeologist
Tennessee Department of Conservation
Division of Archaeology
5103 Edmondson Pike
Nashville, Tennessee 37211-5129
(615) 741-1588

This page intentionally left blank

Appendix C

Museums with Southeastern Archaeological Collections

One of the easiest ways to learn more about the prehistoric artifacts of the Southeast is by looking at other collections. Some of the most accessible of those collections can be viewed at the region's museums, some of which are listed here. Omitted from this list are museums with limited collections or irregular hours and museums that focus on the historic rather than prehistoric periods. Unless otherwise noted, the museums included are closed on major holidays. The information is current as of the 1992 *Official Museum Directory* of the American Association of Museums.

ALABAMA

Birmingham

Red Mountain Museum
1421 22nd Street South
Birmingham, AL 35205
(205) 933-4152

This natural history museum has exhibits on geology, paleontology, and archaeology, with displays of Paleo-Indian artifacts and a "Man in the New World" exhibit. Open Tuesday–Saturday 10–4:30; Sunday 1–4:30. No charge.

Bridgeport

Russell Cave National Monument
Route 1, Box 175
Bridgeport, AL 35740
(205) 495-2672

Archaeological exhibits feature the southeastern Archaic, Woodland, and Mississippian periods. The site also offers interpretive talks and demonstrations as well as books and slides. Open daily 8–5:00. No charge.

Huntsville

Burritt Museum and Park
3101 Burritt Drive
Huntsville, AL 35801
(205) 536-2882

Housed in a 1935 mansion, exhibits relate to the history and natural history of northern Alabama and southern Tennessee. The archaeological collections deal with the prehistory of the Tennessee Valley. Open Tuesday–Sunday 12–5:00 in March–December. No charge.

Montgomery

Alabama Department of Archives and History
624 Washington Avenue
Montgomery, AL 36130
(205) 242-4361

This museum houses the state archives, as well as exhibits about Alabama's history and prehistory. Open Monday–Friday, 8–5:00; Saturday–Sunday, 9–5:00. No charge.

Moundsville

Mound State Monument
Moundsville, AL 35474
(205) 371-2572

The main exhibit here is the mound itself, on top of which is thatched building, built to interpret the temple mound. The museum features some of the Mississippian stage artifacts found at the site. Open daily, 9–5:00. Adults, \$2.00; Children, \$1.00.

Tuscaloosa

Alabama Museum of Natural History
Smith Hall, University of Alabama
P.O. Box 870340
Tuscaloosa, AL 35487-0340
(205) 348-7550

This museum is responsible for the exhibits at the Mound State Monument, and more items from the monument at Moundville can be seen here. Other exhibits deal with history and natural history as well as archaeology. Activities include an archaeological field school and the Resource Center on Southeast Indians.
Open Monday–Friday, 9–5:00; Saturday, 10–4:00; Sunday 2–5.
No charge.

ARKANSAS

Fayetteville

The University Museum
University of Arkansas
Museum Building
Fayetteville, AR 72701
(501) 575-3555

Archaeological exhibits cover the Paleolithic through the Mississippian stages, and artifacts from all over the state are displayed. The Arkansas Archaeological Survey, which is affiliated with the university and the museum, offers a field training program. Open Monday–Saturday, 9–5:00; Sunday 1–5:00. No charge.

Jonesboro

Arkansas State University Museum
Continuing Education Building
Box 490
State University, AR 72467
(501) 972-2704

This general museum has exhibits on both the prehistory and history of Arkansas. Open Monday–Friday 9–4:00; Saturday–Sunday 1–4:00. No charge.

Scott

Toltec Mounds Archaeological State Park
#1 Toltec Mounds Road
Scott, AR 72142
(510) 961-9442

The park's Visitor's Center exhibits materials from the site's excavations interpreting the lifeways and environment as it would have been 1,000 years ago. Open Tuesday–Saturday, 8–5:00; Sunday, 12–5:00. There is no admission, but tours are \$2.15 for adults and \$1.08 for children over 6 years old.

Wilson

Hampson Museum State Park
Lake Drive at Hwy. 61
P.O. Box 156
Wilson, AR 72395

This archaeological museum displays materials from the Paleolithic through the Mississippian cultures, but its primary strength is with the Nodena, a late Mississippian culture. Open Tuesday–Saturday, 9–5:00; adults, \$1.50; children, \$.75.

FLORIDA

Bradenton

South Florida Museum and Bishop Planetarium
201 10th Street West
Bradenton, FL 33505
(818) 746-4131

This general museum has exhibits on archaeology, history, geology, and natural history of southwestern Florida. Open Tuesday–Friday, 10–5:00; Sunday, 12–5:00. The planetarium shows are 1:30 and 3:00 Tuesday–Sunday. Combination museum and planetarium tickets are adults, \$5.00; children, \$2.00. Children under 4 years old are admitted free.

Crystal River

Crystal River State Archaeological Site
3400 N. Museum Pt.
Crystal River, FL 32629
(904) 795-3817

Occupied from about 200 B.C. until 1400 A.D., this archaeological site was excavated beginning in 1903. The entire multi-mound site and the interpretive museum is included in the park. The museum is open daily, 9–5:00. The park is open daily, 8–sunset. Admission is \$2.00 per vehicle.

Fort Lauderdale

Museum of Archaeology
203 Southwest 1st Ave.
Fort Lauderdale, FL 33301
(305) 525-8778

Operated by the Broward County Archaeological Society, this museum's collections include materials from excavations in that county, as well as a Pleistocene mammals exhibit. Open Tuesday–Saturday, 10–4:00; Sunday, 1–4:00. Adults, \$1.00; children, \$.50.

Fort Walton Beach

Indian Temple Mound Museum
139 Miraclestrip Parkway, S.E.
P.O. Box 4009
Fort Walton Beach, FL 32549
(904) 243-6521

A temple has been reconstructed on the mound, and is used to interpret the Fort Walton culture. The adjacent museum has exhibits about both the prehistoric and European contact periods. Open September–May, Monday–Friday, 11–4:00 and Saturday, 9–4:00; June–August, Monday–Saturday, 9–4:00. Adults, \$.75. Children 12 and under free.

Gainesville

Florida State Museum
Museum and Newell Roads
University of Florida
Gainesville, FL 32611
(904) 392-1721

This large natural history museum includes exhibits about the prehistoric cultures in both Florida and the Caribbean. Open Monday–Saturday, 9–5:00; Sunday and holidays, 1–5. (Closed Christmas). No charge.

Jacksonville

Museum of Science and History
1025 Gulf Life Drive
Jacksonville, FL 32207
(904) 396-7062

Also housing a planetarium, this museum has collections on the history and prehistory of other Native American cultures, as well as those of Florida. Open Monday–Friday, 10–5:00; Saturday, 10–6:00; Sunday, 1–6:00. Adults, \$5.00; Active military, senior citizens, and children, \$3.00.

Miami

Historical Museum of Southern Florida
101 W. Flagler Street
Miami, FL 33130
(305) 375-1492

Exhibits range from the prehistoric through the historic, specializing in southern Florida and Caribbean cultures. Open Monday–Wednesday and Friday–Saturday, 10–5:00; Thursday 10–9:00; Sunday, 12–5:00. Adults \$4.00. Children, \$2.00.

Museum of Science
3280 S. Miami Avenue
Miami, FL 33129

In addition to science, this museum deals with the history and prehistory of southern Florida and the Caribbean. Open daily 10–6:00. Adults, \$6.00. Children, \$4.00.

Pensacola

Pensacola Historical Museum
405 S. Adams Street
Pensacola, FL 32501
(904) 433-1559

With local materials on display, this museum traces the history of Pensacola and Escambia County from the prehistoric to the historic times. Open Monday–Saturday, 9–4:30. Adults, \$2.00. Senior citizens and the military, \$1.50. Children (4–16), \$1.00.

Safety Harbour

Safety Harbour Museum of Regional History
329 S. Bayshore Blvd.
Safety Harbour, FL 34695
(813) 726-1668

The Paleolithic and Archaic stages are interpreted at this regional museum, which also exhibits artifacts pertaining to the Tocobago Indians. Open Tuesday–Saturday, 10–4:00; Sunday, 1–4:00. Adults, \$1.00. Children, \$.50.

Tallahassee

Lake Jackson Mounds State Archaeological Site
1313 Crowder Road
Tallahassee, FL 32303-2348
(904) 562-0042

A ceremonial center of the Fort Walton period, this site dates from 1200 A.D.–1500 A.D. There is a library of printed materials identifying artifact types available to the public. Open daily, 8–sundown. No charge.

Museum of Florida History
500 S. Bronough Street
Tallahassee, FL 32399
(904) 488-1484

Operating under the Division of Historical Resources of the Florida Department of State, this museum houses the state archaeologist as well as collections on Florida's history and archaeology. Open Monday–Friday, 9–4:30; Saturday 10–4:30; Sunday and holidays, 12–4:30. Closed Thanksgiving and Christmas. No charge.

GEORGIA

Albany

Thronateeska Heritage Foundation, Inc.
100 Roosevelt Avenue
Albany, GA 31701
(912) 435-1572

Although dealing primarily with the history of southwestern Georgia, this museum also collects and displays archaeological materials.

Blakely

Kolomoki Mounds State Park Museum
Rt. 1
Blakely, GA 31723
(912) 723-3398

First occupied about 800 A.D., Kolomoki was abandoned about 1300. In addition to the mound complex, visitors to the museum can see inside one of the excavated mounds. Open Tuesday–Saturday, 9–5; Sunday, 2–5:30. Adults, \$1.50. Children \$.75. Children under 5 years old free.

Cartersville

Etowah Indian Mounds Historical Site
813 Indian Mounds, S.W.
Cartersville, GA 30120
(706) 387-3747

One of the most famous Mississippian ceremonial centers in the Southeast, Etowah has three mounds which are open to the public and a museum that lets visitors see inside an excavated mound. Open Tuesday–Saturday, 9–5:00; Sunday, 2–5:30. Adults, \$1.50. Children 6–18, \$.75.

Columbus

The Columbus Museum
1251 Wynnton Road
Columbus, GA 31906
(706) 322-0400

This museum has exhibits on art and regional history, including the Singer-Moye Ceremonial Complex. Open Tuesday–Friday, 9:30–4:30; Saturday, 10–5:00; Sunday, 1–5:00. No charge.

Macon

Ocmulgee National Monument
1207 Emery Highway
Macon, GA 31201
(912) 752-8257

With archaeological exhibits pertaining to six culture levels covering 10,000 years, the monument also features a 900–1000 A.D. earth lodge and seven prehistoric mounds. Open daily, 9–5:00. No charge.

KENTUCKY

Bowling Green

The Kentucky Museum
Western Kentucky University
Bowling Green, KY 42101
(502) 745-2592

This museum has displays on the history of Kentucky, but houses a large collection of prehistoric artifacts as well. Open Tuesday–Saturday, 9:30–4:00; Sunday, 1–4:30. Families, \$5.00. Adults, \$2.00. Children, \$1.00.

Clay City

Red River Historical Society Museum
Main Street
Box 915
Clay City, KY 40312
(606) 663-2555

Located in an 1889 bank building, this museum specializes its research activities to local archaeology. Open by appointment, 12–5:00 only. No charge.

Highland Heights

Museum of Anthropology
University Drive
Northern Kentucky University
Highland Heights, KY 41099–6210
(616) 572-5259

This museum specializes in Ohio Valley archaeology, but has materials from contemporary tribes as well. Open mid-August–mid-May, Monday–Friday, 8:30–4:00. Other times by arrangement. No charge.

Lexington

Museum of Anthropology
211 Lafferty Hall
University of Kentucky
Lexington, KY 40506
(606) 257-7112

This university museum has archaeological materials from all over the state, as well as ethnographic artifacts. Open Monday–Friday, 8:00–4:30. No charge.

Louisville

Museum of History and Science
727 West Main Street
Louisville, KY 40202
(502) 561-6100

Exhibits range from prehistory to the space age. In addition to the archaeological materials, the visitor to this museum can see the Apollo 13 capsule. Open Monday–Thursday, 9–5:00; Friday–Saturday, 9–9:00; Sunday, 12–5:00. Adults, \$4.00. Senior citizens and children 2–12, \$3.00.

Mammoth Cave

Mammoth Cave National Park
Mammoth Cave, KY 42259
(502) 758-2251

During the Woodland period, Mammoth Cave was used extensively. The visitor center as well as the cave tours interpret this usage as well as that by later peoples. Call for information on hours and fees.

LOUISIANA

Baton Rouge

L.S.U. Museum of Geoscience
Howe/Russell Geoscience Complex
Tower and South Campus Drive
Baton Rouge, LA 70803
(504) 388-4367

Archaeological materials from Louisiana, as well as elsewhere around the world are exhibited in the Howe/Russell Geoscience Complex. There are also displays about paleontology, geology, and ethnology. Open Monday–Friday, 8–4:30. No charge.

Epps

Poverty Point State Commemorative Area
P.O. Box 248
Epps, LA 71237

This is the site for which the Poverty Point culture is named. Although many of the artifacts uncovered here are on display at the Louisiana State Museum in Shreveport, the site itself is well worth a visit. Open daily, 8–sunset. No charge.

Shreveport

Louisiana State Museum – Shreveport
3015 Greenwood Road
P.O. Box 9067
Shreveport, LA 71109
(318) 632-2020

Among other exhibits, this museum houses some of the materials from Poverty Point. Artifacts from other cultural periods are displayed as well. Open Tuesday–Saturday 9–4:30. No charge.

MISSISSIPPI

Clarksdale

Carnegie Public Library
114 Delta Drive
P.O. Box 280
Clarksdale, MS 38614
(601) 624-4461

Although much better known for its affiliation with the Delta Blues Museum, the Carnegie Public Library houses a fine collection of archaeological artifacts as well as research literature. Open Monday–Friday, 9–5:00; Saturday, 10–2:00. No charge.

Greenville

Winterville Mounds Historic Site
Route 3, Box 600
Greenville, MS 38701
(601) 334-4684

Dominated by twelve mounds, Winterville Mounds also has a museum, reference library, and picnic areas. Museum hours: Monday–Saturday, 9–6:00 p.m. Sunday, 1–6:00 p.m. September 15–May 31: 9–5:00.

Greenwood

Cottonlandia Museum
Highway 82 West
Greenwood, MS 38930
(601) 453-0925

This museum exhibits a large collection of prehistoric materials. Especially noteworthy are the ceramic and bead collections. Open Monday–Friday, 8–5:00; Saturday–Sunday 2–5:00. Other times by appointment. Adults, \$2.50. Students, \$.50.

Jackson

Mississippi State Historical Museum
100 S. State Street
P.O. Box 571
Jackson, MS 39205-0571
(601) 359-6920

Housed in the Old State Capitol, the museum's current archaeological exhibits feature the prehistory of the state from the Paleolithic to the historic times. Site reports from state excavations are available at the museum gift shop. Open Monday–Friday, 8–5:00; Saturday, 9:30–4:30; Sunday, 12:30–4:30. No charge.

Natchez

Grand Village of the Natchez
400 Jefferson Davis Blvd.
Natchez, MS 39120
(601) 446-6502

Three mounds dominate this site, which, like the State Historical Museum, is administered by the Mississippi Department of Archives

and History. A museum interprets materials excavated from the site.
Open Monday–Saturday, 9–5:00; Sunday, 1:30–5:00. No charge.

Starkville

Cobb Institute of Archaeology

Drawer AR

Mississippi State University, MS 39762

(601) 325-3826

Middle Eastern as well as southeastern U.S. archaeological materials are displayed. Open Monday–Friday, 1–4:00. Special groups by appointment on weekends. No charge.

NORTH CAROLINA

Albemarle

Morrow Mountain State Park

Morrow Mountain Road

Albemarle, NC 28001

(704) 982-4402

This museum features geological and natural history displays in addition to exhibits of the prehistoric cultures of the area. Open June–Labor Day: Daily, 10–5:00. Labor Day–May: Saturday–Sunday, 10–5:00; Monday–Friday, by appointment. No charge.

Cherokee

Museum of the Cherokee Indian

U.S. 441

P.O. Box 1599

Cherokee, NC 28719

(704) 497-3481

This museum tells the prehistory and history of the Cherokee Indian, as only they can tell it. Open mid–June to August: Monday–Saturday 9–8:00; Sunday, 9–5:30. September–mid-June: Daily, 9–5:30. Adults, \$3.50. Children 6–12, \$1.75.

Laurinburg

Indian Museum of the Carolinas, Inc.

607 Turnpike Road

P.O. Box 666

Laurinburg, NC 28352

(919) 276-5880

This museum exhibits materials dealing with the prehistoric and historic Indians of the Southeast. Open Wednesday–Thursday, 10–12:00 and 1–4:00; Sunday 1–4:00. No charge.

Mount Gilead

Town Creek Indian Mound State Historic Site
Montgomery Road 1542
Rt. 3, Box 50
Mount Gilead, NC 27306
(919) 439-6802

This is a restored Mississippian period Ceremonial Center, with a temple on top of an earthen mound, a priest's dwelling, a burial house, and a mud-plastered palisade. A Visitor's Center helps to interpret the site. Open April–October: Monday–Saturday, 9–5:00; Sunday, 1–5:00. November–March: Tuesday–Saturday, 10–4:00; Sunday, 1–5:00. No charge.

Pembroke

Native American Resource Center
Pembroke State University
College Road
Pembroke, NC 28372
(919) 521-4214

The prehistory of the Southeastern tribes is interpreted as well as the history of other Native Americans. Open Monday–Friday, 8–5:00. No charge.

Raleigh

North Carolina Division of Archives and History
109 E. Jones Street
Raleigh, NC 27601-2807
(919) 733-7305

This is the state museum system for North Carolina, and it includes numerous sites and historic houses. Archaeological and anthropological materials are part of the Museum of History. Open Tuesday–Saturday, 9–5:00; Sunday, 1–6:00. No charge.

SOUTH CAROLINA

Charleston

The Charleston Museum
360 Meeting Street
Charleston, SC 29403
(803) 722-2996

In addition to having exhibits on the history and natural science of Charleston, this museum interprets the archaeology and ethnology of South Carolina's coastal region. Open Monday–Saturday, 9–5:00; Sunday, 1–5:00. Adults, \$4.00. Children, \$2.00.

Columbia

South Carolina Institute of Archaeology & Anthropology
1321 Pendelton Street
University of South Carolina
Columbia, SC 29208
(803) 777-8170

Also serving as the headquarters for the state archaeologist, this museum has exhibits developed from both historical and prehistorical archaeological investigations in South Carolina. Open Monday–Friday, 8:30–5:00. No charge.

Greenwood

The Museum
106 Main Street
P.O. Box 3131
Greenwood, SC 29648
(803) 229-7093

This general museum interprets the natural history, prehistory, and history of the area. Open Tuesday–Friday, 9–5:00; Saturday–Sunday, 2–5:00. No charge.

TENNESSEE

Cleveland

Red Clay State Historical Park
Route 6, Box 306
1140 Red Clay Park Road, SW
Cleveland, TN 37311
(615) 478-0339

This is a historic site park at the 1832–1838 seat of the Cherokee government. Collections include Paleolithic through Mississippian and historic period artifacts. Open daily, 8–4:30. No charge.

Memphis

C.H. Nash Museum – Chucalissa
1987 Indian Village Dr.
Memphis, TN 38109
(901) 785-3160

The village site for the Mississippian site of Chucalissa has been reconstructed into an outdoor museum. The museum building interprets the site and the prehistory of the mid-South. Open Tuesday–Saturday, 9–5:00; Sunday, 1–5:00. Adults, \$3.00. Children and senior citizens, \$1.50. Memphis State faculty and students, no charge.

Nashville

Cumberland Science Museum
800 Ridley Blvd.
Nashville, TN 37203
(615) 862-5160

This natural science and technology museum displays artifacts from the Paleolithic period. It is geared for students, but is enjoyable for all ages. Open Tuesday–Saturday, 9:30–5:00, Sunday, 12:30–5:30. Adults, \$5.00. Children, \$4.00.

Pinson

Pinson Mounds State Archaeological Area
460 Ozier Road
Pinson, TN 38366
(901) 988-5614

This is a Woodland Period ceremonial site, with an adjacent Visitors' Center. Exhibits interpret regional, as well as the site's prehistory. Open March–November: Monday–Saturday, 8:30–5:00; Sunday, 1–5:00. December–February: Monday–Friday, 8:30–5:00. No charge.

Bibliography

American Association of Museums.

- 1992 *The Official Museum Directory*. Wilmette, Ill.: National Register Publishing Company.

Anderson, David G.

- 1989 "The Mississippian in South Carolina," in *Studies in South Carolina Archaeology: Essays in Honor of Robert L. Stephenson*, edited by Albert C. Goodyear and Glen T. Hanson. Anthropological Studies 9. Columbia, S.C.: South Carolina Institute of Archaeology and Anthropology, University of South Carolina.

Appenzeller, Tim.

- 1992 "A High Five From the First New World Settlers?" *Science*, 255 (February 21, 1992): 920–21.

Babbage, Charles.

- 1969 "Time Reckoning by Tree Ring Count," in *Man's Discovery of His Past: A Sourcebook of Original Articles*, edited by Robert F. Heizer. Palo Alto, Calif.: Peck Publications.

Blanton, Dennis B. and Kenneth E. Sassaman.

- 1989 "Pattern and Process in the Middle Archaic Period of South Carolina," in *Studies in South Carolina Archaeology: Essays in Honor of Robert L. Stephenson*, edited by Albert C. Goodyear III and Glen T. Hanson. Anthropological Studies 9. Columbia, S.C.: South Carolina Institute of Archaeology and Anthropology, University of South Carolina, 53–72.

- Bower, Bruce.
 1988 "Skeletal Aging of New World Settlers," *Science News*, 133 (April 2, 1988): 215.
 1990a "America's Talk: The Great Divide," *Science News*, 137 (June 9, 1990): 360–62.
 1990b "Common Origin Cited for American Indians," *Science News*, 138 (August 4, 1990): 68.
 1990c "Tracking New World Genes," *Science News*, 137 (June 9, 1990): 361.
- Bradford, George.
 1976 *Paleo Points: An Illustrated Chronology of Projectile Points*. Vol. 1. Ontario, Canada: George Bradford.
- Bradle, Michael R.
 1987 "Archaeological Vandalism: A Response to Thompson," *Central States Archaeological Journal*, 34 (3): 145.
- Brookes, Samuel O.
 1979 *The Hester Site: An Early Archaic Occupation in Monroe County, Mississippi*. Jackson: Mississippi Department of Archives and History.
- Brown, Calvin
 1992 *Archaeology of Mississippi*. Jackson: University Press of Mississippi.
- Bryan, Alan Lyle (ed.)
 1986 *New Evidence for the Pleistocene Peopling of the Americas*. Peopling of the Americas Symposia Series. Orono, Maine: Center for the Study of Early Man, University of Maine.
- Bryan, Alan Lyle
 1986 "Paleoamerican Prehistory as Seen From South America," in *New Evidence for the Pleistocene Peopling of the Americas*, edited by Alan Lyle Bryan. Peopling of the Americas Symposia Series. Orono, Maine: Center for the Study of Early Man, University of Maine.
- Cambron, James W. and David C. Hulse.
 1964 *Handbook of Alabama Archaeology: Part 1 Point Types*. University, Ala.: Archaeological Research Association of Alabama, Inc.
- Clausen, C.J., A.D. Cohen, C. Emiliani, J.H. Holman and J.J. Stipp.
 1979 "Little Salt Spring, Florida: A Unique Underwater Site," *Science* 203: 609–14.
- Coe, Michael D., Dean R. Snow and Elizabeth P. Benson.
 1986 *Atlas of Ancient America*. New York: Facts on File Publications.
- Davis, Dave D. (ed.)
 1984 *Perspectives on Gulf Coast Prehistory*. Ripley P. Bullen Monographs in Anthropology and History No. 5. Gainesville, Fla.: University of Florida Press/Florida State Museum.

- Davis, Hester A. (ed.)
 1982 *A State Plan for the Conservation of Archaeological Resources in Arkansas*. Arkansas Archaeological Survey Research Series 21. Fayetteville, Ark.: Arkansas Archaeological Survey.
- Deetz, James.
 1967 *Invitation to Archaeology*. Garden City, N.Y.: Natural History Press.
- Dillehay, Tom D. and David J. Meltzer (eds.)
 1991 *The First Americans: Search & Research*. Boca Raton, Fla.: CRC Press.
- Dragoo, Don W.
 1973 "Wells Creek—An Early Man Site in Stewart County, Tennessee," *Archaeology of Eastern North America*, 1 (1): 1–56.
- Ellis, Gary.
 1985 "Late Woodland Microliths from the Chattanooga Area," *Central States Archaeological Journal*, 32 (3): 110–12.
- Fagan, Brian M.
 1987 *The Great Journey: The Peopling of Ancient America*. New York: Thames and Hudson.
- Fiedel, Stuart C.
 1987 *Prehistory of the Americas*. New York: Cambridge University Press.
- Gagel, Katherine.
 1981 *Archaeological Excavations at Site 8Hi483B: An Archaic Habitation Site in Hillsborough County, Florida*. Tallahassee, Fla.: Florida Department of State.
- Galloway, Patricia (ed.)
 1985 *Anthology of Mississippi Archaeology, 1966–1979: A Selection from the Publications of the Mississippi Archaeological Association*. Jackson, Miss.: Mississippi Archaeological Association/Mississippi Department of Archives and History.
- Giddings, James Louis, Jr.
 1960a "The Archaeology of the Bering Strait," *Current Anthropology*, 1 (2): 121–30.
 1960b "First Traces of Man in the Arctic," *Natural History*, 69 (9): 10–19.
- Goodyear, Albert C., III and Glen T. Hanson.
 1989 *Studies in South Carolina Archaeology: Essays in Honor of Robert L. Stephenson*. Anthropological Studies 9. Columbia, S.C.: South Carolina Institute of Archaeology and Anthropology, University of South Carolina.
- Goodyear, Albert C., III, James L. Michie and Tommy Charles.
 1990 *The Earliest South Carolinians: the Paleoindian Occupation of South Carolina*. Archaeological Society of South Carolina, Inc., Occasional

- Papers No. 2. West Columbia, S.C.: American Systems of the Carolinas, Inc.
- Greenberg, Joseph H., Christy G. Turner II, and Stephen L. Zegura.
 1986 "The Settlement of the Americas: A Comparison of the Linguistic, Dental and Genetic Evidence," *Current Anthropology*, 27 (5): 477–97.
- Greene, Kevin.
 1983 *Archaeology: An Introduction*. Totowa, N.J.: Barnes & Noble.
- Haynes, C. Vance, Jr.
 1969 "The Earliest Americans," *Science* 166 (November 7, 1969): 709–15.
 1988 "Geofacts and Fancy," *Natural History* 97 (2): 4+.
- Heizer, Robert F. (ed.)
 1969 *Man's Discovery of His Past: A Sourcebook of Original Articles*. Palo Alto, Calif.: Peek Publications.
- Hole, Frank and Robert F. Heizer.
 1973 *An Introduction to Prehistoric Archaeology*. 3rd ed. New York: Holt, Rinehart, and Winston, Inc.
- Horgan, John.
 1992 "Early Arrivals," *Scientific American*, 266 (February, 1992): 17–20.
- Howard, Calvin D.
 1983 "The Ancient Missile Launchers of Aboriginal Americans," *Central States Archaeological Journal*, 30 (3): 115–19.
- Hranicky, William Jack.
 1975 "Physiological Evidence for Early Man in the New World," *Central States Archaeological Journal*, 22 (4): 167–70.
- Hudson, Charles.
 1976 *The Southeastern Indians*. Knoxville: University of Tennessee Press.
- Humphrey, Pat.
 1979 "The Professional Versus the Amateur," *Central States Archaeological Journal*, 26: 191.
- Jennings, Jesse D.
 1968 *Prehistory of North America*. New York: McGraw-Hill Book Co.
- Jennings, Jesse D. (ed.)
 1983 *Ancient North Americans*. New York: W.H. Freeman and Co.
- Jennings, Jesse D.
 1983 "Origins," in *Ancient North Americans*, Jesse D. Jennings (ed.). New York: W.H. Freeman and Co.
- Jennings, Jesse D. and Edward Norbeck (eds.)
 1964 *Prehistoric Man in the New World*. Chicago: University of Chicago Press.

- Jester, Marvin D. and others.
 1982 "Southeast Arkansas," in *A State Plan for the Conservation of Archaeological Resources in Arkansas*, edited by Hester A. Davis. Arkansas Archaeological Survey Research Series 21. Fayetteville, Ark.: Arkansas Archaeological Survey.
- Justice, Noel D.
 1987 *Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States: A Modern Survey and Reference*. Bloomington: Indiana University Press.
- Kelly, Robert L. and Lawrence C. Todd.
 1988 "Coming into the Country: Early Paleoindian Hunting and Mobility," *American Antiquity*, 53 (2): 231–44.
- Krieger, Alex D.
 1964 "Early Man in the New World," in *Prehistoric Man in the New World*, edited by Jessie D. Jennings and Edward Norbeck. Chicago: University of Chicago Press.
- Kwas, Mary L.
 1983 "Comment on 'The Ancient Missile Launcher of Aboriginal America,' by C. Howard," *Central States Archaeological Journal*, 30 (4): 182.
- Lauro, James and Geoffrey R. Lehman.
 1982 *The Slate Site: A Poverty Point Lapidary Industry in the Southern Yazoo Basin*. Archaeological Report No. 7. Jackson, Miss: Mississippi Department of Archives and History.
- Levin, Roger.
 1987 "The First Americans Are Getting Younger," *Science*, 238 (November 27, 1987): 230–32.
 1989 "Skepticism Fades Over Pre-Clovis Man," *Science*, 244 (June 9, 1989): 1140.
- Libby, W.F., E.C. Anderson, and J.R. Arnold.
 1969 "Radiocarbon Dating," in *Man's Discovery of His Past: A Sourcebook of Original Articles*, edited by Robert F. Heizer. Palo Alto, Calif.: Peek Publications.
- Mainfort, Robert C., Jr. (ed.)
 1988 *Middle Woodland Settlement and Ceremonialism in the Mid-South and Lower Mississippi Valley: Proceedings of the 1984 Mid-South Archaeological Conference, Pinson Mounds, Tennessee—June, 1984*. Jackson: Mississippi Department of Archives and History.
- Marshall, Eliot.
 1990 "Clovis Counterrevolution," *Science*, 249 (August 17, 1990): 738–41.

- Mason, R.J.
 1963 "Paleo-Indian Tradition in Eastern North America," *Current Anthropology*, 3: 227–46.
- Maxwell, James A. (ed.).
 1990 *America's Fascinating Indian Heritage*. Pleasantville, N. Y.: Reader's Digest Association.
- McHargue, Georgess and Michael Roberts.
 1977 *A Field Guide to Conservation Archaeology in North America*. Philadelphia: J.B. Lippincott Co.
- McIntosh, Jane.
 1986 *The Practical Archaeologist: How We Know What We Know About the Past*. New York: Facts on File.
- Michael, Henry N. and Elizabeth K. Ralph. (eds.)
 1971 *Dating Techniques for the Archaeologist*. Cambridge, Mass.: MIT Press.
- Milanich, Jerald T.
 1974 "Life in a 9th Century Indian Household: A Weeden Island Fall–Winter Site on the Upper Apalachicola River, Florida," in *Bureau of Historic Sites and Properties Bulletin No. 4*. Tallahassee: Florida Department of State.
- Milanich, Jerald T. and Charles H. Fairbanks.
 1980 *Florida Archaeology*. New York: Academic Press.
- Morland, Richard E.
 1986 "Pleistocene Archaeology in Old Crow Basin: A Critical Reappraisal," in *New Evidence for the Pleistocene Peopling of the Americas*, edited by Alan Lyle Bryan. Peopling of the Americas Symposia Series. Orono, Maine: Center for the Study of Early Man, University of Maine.
- Morell, Virginia.
 1990 "Confusion in Earliest America," *Science*, 284 (April 27, 1990): 439–41.
- Morse, Dan F.
 1982 "Northeast Arkansas," in *A State Plan for the Conservation of Archaeological Resources in Arkansas*, edited by Hester A. David. Arkansas Archaeological Survey Research Series No. 21. Fayetteville, Ark.: Arkansas Archaeological Survey.
- Morse, Dan F. and Phyllis A. Morse.
 1982 *Archaeology of the Central Mississippi Valley*. San Diego, Calif.: Academic Press.
- Muldoon, James P., Jr.
 1987 "The Amateur's Valuable Contribution to Science," *Central States Archaeological Journal*, 34 (4): 204–5.

- Muller, Jon.
 1983 "The Southeast," in *Ancient North Americans*, edited by Jessie D. Jennings. New York: W.H. Freeman and Co.
- National Geographic Society.
 1992 "Peopling the Americas: A New Site to Debate," *National Geographic*, 182 (September 1992): "Geographica."
- Neuman, Robert W.
 1984 *An Introduction to Louisiana Archaeology*. Baton Rouge, La.: Louisiana State University Press.
- Painter, Floyd.
 1984 "A New Search for the Origins of Paleo-Indian Lithic Traditions," *Central States Archaeological Journal*, 31 (2): 4–10.
 1986 "Pointed Weapons of Wood, Bone, and Ivory: Survival Tools of Early Man in North America," *Central States Archaeological Journal*, 33 (1): 62–76.
- Palmer, Jill, Jim Dunbar and Danny Clayton.
 1981 *Report of Phase II Underwater Archaeological Testing at the Fowler Bridge Mastodon Site (8Hi393c/uw) Hillsborough County, Florida*. Tallahassee: Florida Department of State.
- Palter, John L.
 1976 "A New Approach to the Significance of the 'Weighted' Spear Thrower," *American Antiquity* 41 (4): 500–510.
- Penman, John T.
 1977 *Archaeological Survey in Mississippi, 1974–1975*. Jackson, Miss.: Mississippi Department of Archives and History.
- Phillips, Philip.
 1970 *Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949–1955*. Peabody Museum Papers, Vol. 60. Cambridge, Mass.: Peabody Museum.
- Purdy, Barbara A.
 1981 *Florida's Prehistoric Stone Technology*. Gainesville, Fla.: University Presses of Florida.
- Raab, L. Mark, and others.
 1982 "The Arkansas Ozarks," in *A State Plan for the Conservation of Archaeological Resources in Arkansas*, edited by Hester A. Davis. Arkansas Archaeological Survey Research Series 21. Fayetteville, Ark.: Arkansas Archaeological Survey.
- Rathje, William L.
 1977 "In Praise of Archaeology: Le Projet du Garbage," in *Historical Archaeology and the Importance of Material Things*, edited by Leland Ferguson. Society for Historical Archaeology Special Publication Se-

- ries Number 2, edited by John D. Combes. N.1.: Society for Historical Archaeology.
- Schambach, Frank F. and Ann M. Early.
 1982 "Southwest Arkansas," in *A State Plan for the Conservation of Archaeological Resources in Arkansas*, edited by Hester A. Davis. Arkansas Archaeological Survey Research Series 21. Fayetteville, Ark.: Arkansas Archaeological Survey.
- Schambach, Frank F. (ed.)
 1990 *Coles Creek and Mississippi Period Foragers in the Felsenthal Region of the Lower Mississippi Valley*. Arkansas Archaeological Research Series No. 39. Fayetteville, Ark.: Arkansas Archaeological Survey Publications.
- Simpson, Ruth D., Leland W. Patterson, and Clay A. Singer.
 1986 "Lithic Technology of the Calico Mountains Site, South California," in *New Evidence for the Pleistocene Peopling of the Americas*, edited by Alan Lyle Bryan. Peopling of the Americas Symposia Series. Orono, Maine: Center for the Study of Early Man, University of Maine.
- Smith, Bruce D. (ed.)
 1978 *Mississippian Settlement Patterns*. New York: Academic Press.
- Steno, Nicolaus.
 1969 "The Strata of the Earth," in *Man's Discovery of His Past: A Sourcebook of Original Articles*, edited by Robert F. Heizer. Palo Alto, Calif.: Peek Publications.
- Stuart, George E.
 1991 "Etowah," *National Geographic*, 180 (October, 1991): 54–67.
- Suhm, Dee Ann and Edward B. Jelks.
 1962 *Handbook of Texas Archaeology: Type Descriptions*. Austin, Texas: Texas Archaeological Society and the Texas Memorial Museum.
- Swafford, Edwin.
 1986 "Documenting and Cataloging Indian Artifacts," *Central States Archaeological Journal*, 33 (1): 28–31.
- Swanton, John R.
 1946 *The Indians of the Southeastern United States*, Bureau of American Ethnology Bulletin 137. Washington, D. C.: Smithsonian Institution.
 1952 *The Indian Tribes of North America*, Bureau of American Ethnology Bulletin 145. Washington, D. C.: Smithsonian Institution.
- Trinkley, Michael B.
 1989 "An Archaeological Overview of the South Carolina Woodland Period: It's the Same Old Riddle," in *Studies in South Carolina Archaeology: Essays in Honor of Robert L. Stephenson*, edited by Albert C. Goodyear III and Glen T. Hanson. Anthropological Studies 9. Columbia,

- S.C.: South Carolina Institute of Archaeology and Anthropology, University of South Carolina.
- U. S. News and World Report
 1990 "Coming to America: Were the First New World Settlers Fishermen?" (April 2, 1990): 54.
- Van Buren, G.E.
 1974 *Arrowheads and Projectile Points: With a Classification Guide For Lithic Artifacts*. Garden Grove, Calif.: Arrowhead Publishing Co.
- Walker, J.H.
 1987 "Was It Buried, Lost or Mislaid," *Central States Archaeological Journal*, 34 (2): 84–85.
- Walthall, John A.
 1980 *Prehistoric Indians of the Southeast: Archaeology of Alabama and the Middle South*. University, Ala.: University of Alabama Press.
- Webb, S. David and others.
 1984 "A Bison Antiquus Kill Site, Wacissa River, Jefferson County, Florida," *American Antiquity*, 49 (2): 384–92.
- Williams, Robert C. and others.
 1985 "Gm Allotypes in Native Americans: Evidence for Three Distinct Migrations Across the Bering Land Bridge," *American Journal of Physical Anthropology*, 66: 1–19.
- Williams, Stephen and Jeffrey P. Brain.
 1983 *Excavations at the Lake George Site, Yazoo County, Mississippi 1958–1960*. Cambridge, Mass.: Peabody Museum of Archaeology and Ethnology, Harvard University.
- Wolkomir, Richard.
 1991 "New Finds Could Rewrite the Start of American History," *Smithsonian Magazine*, 21 (March 1991): 130–44.
- Yerger, C.G.
 1986 *Arrowheads & Stone Artifacts: a Practical Guide for the Surface Collector and Amateur Archaeologist*. Boulder, Colo.: Pruett Publishing Co.
- Yerkes, Richard W.
 1987 *Prehistoric Life on the Mississippi Floodplain: Stone Tool Use, Settlement Organization, and Subsistence Practices at the Labras Lake Site, Illinois*. Chicago: University of Chicago Press.

This page intentionally left blank

Index

- Absolute dating, 20–22, 77
Adovasio, James, 36, 42
Agate, 25
Agate Basin point, 46
Agriculture, 69, 72
Antler, 26
Archaeo-magnetic dating, 22
Atlatl (spearthrower), 49, 53–55, 77
Awl, 58, 61, 74, 77
Ax. *See* Celt
- Bakers Creek point, 68
Band level society, 40, 45, 50, 52, 57
Bangs Slough site, Arkansas, 70
Bannerstone, 49, 53, 54, 55, 77
Baryshnikov, G. F., 34
Basketmaker II, 54
Basketry, 28, 62, 63
Baytown culture, 69, 71
Beads, 55, 59, 64, 67, 68, 73, 74
Beaver Lake point, 46, 47
Benton Stemmed point, 57, 58
Beringia, 32–34, 36–37, 43
- Big Bone Lick, Kentucky, 44
Big Sandy point, 81
Bison, 33–34, 50, 52
Bone artifacts, 21, 23, 25, 26, 28, 36, 59, 64, 67, 68, 71, 72, 74
Bow and arrow, 18, 69, 72
Blanton, Dennis, 48, 52
Bluefish Caves site, Canada, 34, 42
Brain, Jeffrey, 67, 69, 75–76
Bryan, Alan Lyle, 39
- Calico Mountains, California, 42
Campbell, Lyle, 37
Cann, Rebecca, 39
Caraway Triangular point, 73
Caribou, 33
Cataloging collection, 24
Catlin, George, 73–74
Cavalli-Sforza, Luigi L., 37
Celt, 53, 55, 66, 67, 74
Ceramics. *See* Pottery
Ceremonial, 54, 68, 69, 72, 74
Chalcedony, 25

- Chert, 22, 25
- Chert weathering, 22
- Chieftdom, 71
- Chunkey. *See* Discoidals
- Cinq-Mars, Jacques, 34, 42
- Citrus point, 70
- Clarksville Small Triangular point, 73
- Climate, 23, 44, 48, 51–52, 54
- Clovis point, 41, 42, 43–44, 46
- Clustering, 23
- Coles Creek culture, 69
- Copena culture, 67
- Copena point, 68
- Copper, 67
- Cooking ball, 57–58, 62, 64, 65
- Coosa point, 68
- Context, 24
- Cordilleran ice sheet, 34, 35
- Cross-dating, 19
- Culture, 17, 18, 19, 29
- Cumberland point, 46, 81

- Dalton cluster points, 47, 51
- Dalton point, 49, 50
- Dating techniques, 19–22
- Decatur point, 51
- Deer, 49, 50, 52, 54, 57, 72, 73
- Delhi point, 57, 59
- Dendrochronology, 20–21, 77
- Deptford phase, 64
- Dillehay, Tom, 37, 41–42
- Direct percussion flaking, 25–26
- Discoidals, 73, 74
- DNA analysis. *See* Mitochondrial analysis
- Dragoo, Don W., 41
- Drill, 65, 68, 73

- Effigy, 55, 67, 68, 78
- Epicanthic fold, 30, 78
- Eva points, I and II, 57, 58
- Eyes, 30

- Fitzgerald, William, 43

- Flint, 17, 25, 26
- Folsom point, 81–82
- Fort Ancient point, 73
- Fresno point, 73

- Gary point, 57, 58, 70
- Giddings, J. Louis, 34
- Glottochronology, 22, 36–37
- Gorget, 55, 56, 66, 67, 78
- Guidon, Niède, 69
- Gulf Formational stage, 62
- Greenbriar Dalton point, 50
- Greenberg, Joseph, 36
- Grinding stone and slab, 23–24, 56, 72, 74

- Haynes, C. Vance, 42
- Hardaway point, 51
- Heat treatment. *See* Thermal alteration
- Heavy core tool complex, 41
- Heizer, Robert F., 18, 23
- Hernando point, 69–70
- Hoes, 67, 72, 74
- Hole, Frank, 18, 23
- Hopewell culture, 66
- Horses, 33
- Horticulture, 66
- Horizon, 10, 78
- Howard, Calvin D., 53
- Humphrey, Pat, 24
- Hypsithermal, 48, 51, 54

- Ice Age. *See* Pleistocene
- Ice-free corridor, 33, 35, 36, 43
- Indian Knoll, Kentucky, 54
- Indirect percussion flaking, 26–27
- Irving, William, 34, 42

- Jack's Reef Corner Notched point, 69, 70
- Jack's Reef Pentagonal point, 73
- Jennings, Jesse D., 67
- Josselyn, Dan, 41
- Justice, Noel, 46, 47, 50, 51, 69, 81, 82

- Kanawha point, 81
- Kimmswick site, Missouri, 44
- Kirk Cluster points, 51
- Kirk Corner Notched point, 51, 82
- Kirk Serrated point, 51
- Kirk Stemmed point, 51
- Krieger, Alex D., 18

- Labeling collection. *See* Cataloging collection
- Lapidary industry, 55
- Laughlin, William S., 43
- Laurentide ice sheet, 34, 35
- LeCroy point, 57
- Ledbetter Stemmed point, 57, 58, 59
- Little Salt Springs site, Florida, 45
- Lively Complex, 41
- Lively, Matthew, 41
- Lost Lake point, 81

- MacCorkle point, 82
- Mace, 75, 76
- MacNeish, Richard, 41
- Macroliths, 34, 38, 41
- Madison point, 73
- Mammoth, 33, 42, 43, 44, 48
- Marksville, culture, 67
- Mastodon, 43, 44, 48
- McLean 11 site, Kentucky, 54
- Meadowcroft Rockshelter, Pennsylvania, 36, 40, 42
- Megfauna, 43, 44, 48, 78
- Microolith, 60, 61, 65, 68, 73, 78
- Mitochondrial DNA analysis, 22, 30, 37, 39
- Molar cusp patterns, 30–31
- Mongolian fold. *See* Epicanthic fold
- Monte Verde site, Chile, 37, 38, 41–42
- Morrell, Virginia, 40
- Morrow Mountain point, 52
- Morse, Dan and Phyllis, 50, 56, 71
- Musk ox, 33

- Neuman, Robert W., 58
- Nodena point, 73, 74
- Norwood series, 64

- Obsidian, 22, 25
- Obsidian-hydration, 22
- Orange phase, 64

- Paabo, Svante, 39
- Paleo-magnetic dating. *See* Archaeo-magnetic dating
- Palmer Corner Notched point, 82
- Palter, John L., 54
- Palynology, 20, 54, 78
- Pendant, 55, 56, 66
- Percussion flaking, 25–26
- Pedra Furado Rockshelter, Brazil, 37, 38, 39
- Pebble tools, 34, 38, 41
- Period, 17
- Petrified wood, 25
- Phase, 17
- Pickwick point, 57, 58–59
- Pine Tree Corner Notched point, 51
- Pinellas point, 73
- Pipe, 57, 67, 74, 75
- Plainview point, 46
- Plano cluster points, 46
- Pleistocene, 31, 44, 48
- Plummet, 55, 56, 64, 78
- Pot hunters, 12
- Pottery, 24, 27–28, 62–63, 65, 66, 67–68, 74–76
- Poverty Point, 57–58, 62, 64, 65, 70
- Pre-projectile point stage, 38–42
- Pressure flaking, 26, 78
- Projectile point: manufacture, 25–27, 49–50, 52, 70, 73; typology, 23, 25, 47, 52
- Projectile point types: Agate Basin point, 46; Bakers Creek point, 68; Beaver Lake point, 46–47; Benton Stemmed point, 57, 58; Big Sandy point, 81; Caraway Triangular point, 73; Citrus

- Projectile point types (*cont.*)
 point, 70; Clarksville Small Triangular point, 73; Clovis point, 41, 42, 43–44, 46; Copena point, 68; Coosa point, 68; Cumberland point, 46, 81; Dalton cluster points, 47, 51; Dalton point, 49, 50; Decatur point, 51; Delhi point, 57, 59; Eva points, I and II, 57–58; Folsom point, 81–82; Fort Ancient point, 73; Fresno point, 73; Gary point, 57, 58, 70; Greenbriar Dalton point, 50; Hardaway point, 51; Hernandez point, 69–70; Jack's Reef Corner Notched point, 69, 70; Jack's Reef Pentagonal point, 73; Kanawha point, 81; Kirk Cluster points, 51; Kirk Corner Notched point, 51; Kirk Serrated point, 51; Kirk Stemmed point, 51; LeCroy point, 57; Ledbetter Stemmed point, 57, 58, 59; Lost Lake point, 81; MacCorkle point, 82; Madison point, 73; Morrow Mountain point, 52; Nodena point, 73, 74; Palmer Corner Notched point, 82; Pickwick point, 57, 58–59; Pine Tree Corner Notched point, 51; Pinellas point, 73; Plainview point, 46; Plano cluster points, 46; Quad point, 47; Raccoon Side-notched point, 70; Roanoake Large Triangular point, 73; San Patrice point, 51; Saratoga cluster points, 57, 59, 60; Savannah River point, 57, 59, 60, 63; Scallorn, 60, 70, 73; Sequoyah point, 69, 70, 73; Simpson point, 47; Stanly Stemmed point, 53, 82; Steuben Expanded Stemmed point, 68; Suwanee point, 47; Turkeytail point, 57, 59, 60; Wade point, 57, 58, 60
 Purdy, Barbara, 47, 49, 70, 73
 Quad point, 47
 Quartz, 25, 55, 57
 Raccoon Side-notched point, 70
 Radiocarbon dating, 21, 22, 78
 Refuge phase, 64
 Relative dating, 19–20, 78
 Retouched tools, 26, 50, 59
 Roanoake Large Triangular point, 73
 Rockshelter, 50, 57
 San Patrice point, 51
 Santa Rosa culture, 67
 Saratoga Cluster points, 57, 59, 60
 Saratoga point, 57, 60
 Sassaman, Kenneth, 48, 52
 Savannah River point, 57, 59, 60, 63
 Scallorn point, 69, 70, 73
 Scrapers, 23, 58, 60, 64, 65, 68, 73
 Sequoyah point, 69, 70, 73
 Settlement patterns, 25, 45, 50, 56–57, 61, 63, 69, 71–72
 Shell, 23, 57, 64
 Shellfish, 52, 64
 Shovel-shaped incisors, 30–31
 Siberia, 30, 31, 33, 36
 Simpson point, 47
 Simpson, Ruth, 42
 Smith, Bruce D., 71–72, 73
 Soil acidity, 23, 44
 Spearthrower. *See* Atlatl
 Spokeshave, 73
 Stage, 17
 Stallings Island phase, 62, 63–64
 Stanly Stemmed point, 53, 82
 Steatite, 56, 63, 64, 67, 78
 Steuben Expanded Stemmed point, 68
 Stratigraphy, 20, 78
 Suwanee point, 47
 Swift Creek culture, 67
 Teeth, 22, 30–31
 Thermal alteration, 21, 41
 Thermoluminescence, 21
 Thom's Creek phase, 64
 Todd, Lawrence C., 44